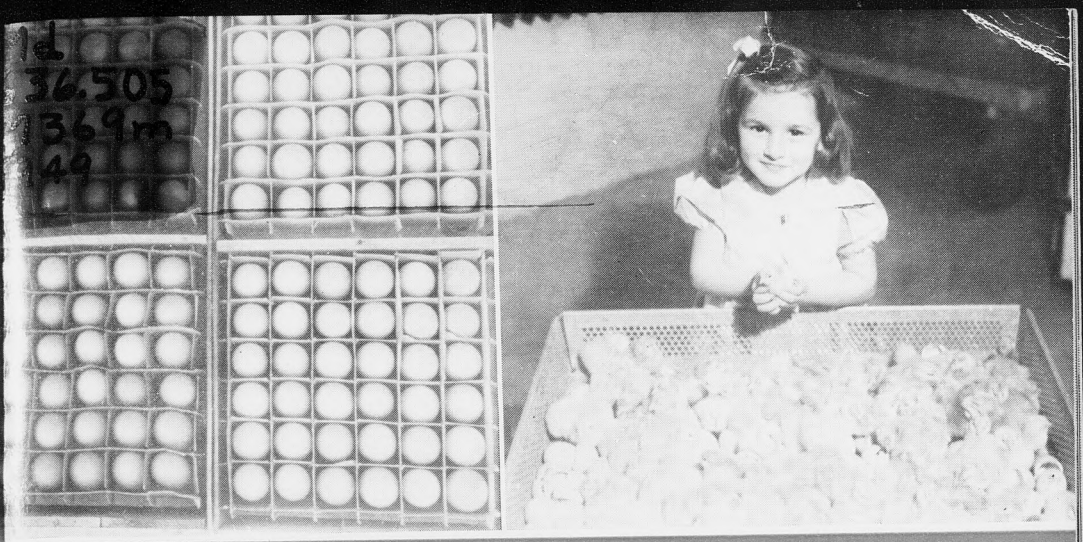
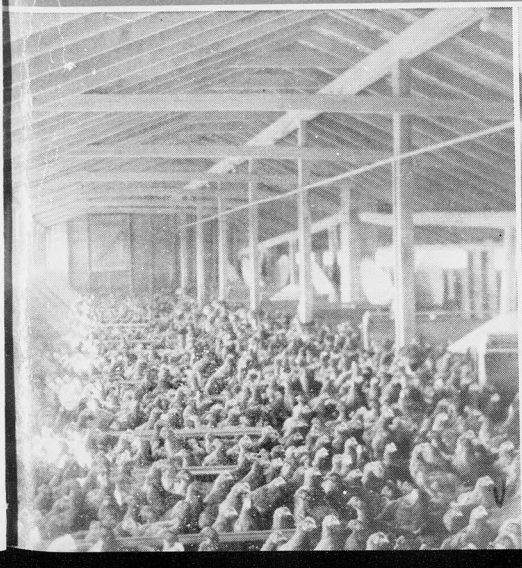
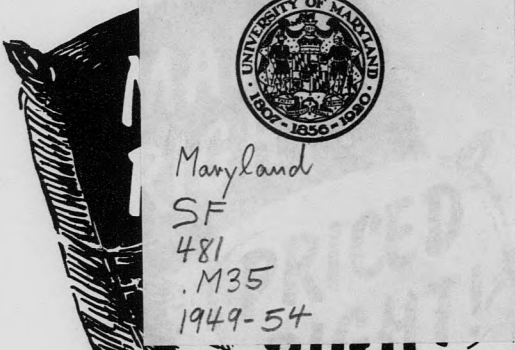
1d
36.505
369m
49



MARYLAND POULTRY YEARBOOK 1949



LIBRARY—COLLEGE PARK



Maryland
SF
481
.M35
1949-54

Scientifically formulated against a background of 50 years of experience, D&G feeds are correctly balanced with the animal proteins, vitamins and amino acids so necessary to healthful vigor and growth.

Designed for practical performance, each D&G feed is priced right to enable the feeder to make a reasonable profit on his feed outlay.

PRACTICAL FEEDS FOR PRACTICAL FEEDERS

D&G

For Poultry Profits . . .

Profitable Poultry Raising Demands

1. **Good Breeding**
2. **Good Management**
3. **Good Feeding**

It is the third factor - "Good Feeding" - where we can be of assistance. Therefore - for our own success - all of our efforts are directed to the economical production of Good Feeds - feeds that are formulated on the most up-to-date scientific findings and proven values - really Practical Feeds for Practical Feeders.

GAMBRILL'S LAYING MASH
A high quality, high protein mash, Noted for consistently high production records. Priced right!

D & G BREEDER MASH
High hatchability is the regular experience of users of this feed. It is also popular because of high livability and vitality of chicks. A real profit maker.

SPECIAL BROILER MASH
A new type high energy, low fibre, complete ration. Speeds up growth so essential to profitable broiler raising.

SCIENTIFICALLY FORMULATED

Dietrich & Gambrill, Inc.

FREDERICK, MD. LEWISBURG, PA.

THE 1949
MARYLAND POULTRY
YEARBOOK

Published By

THE MARYLAND STATE POULTRY COUNCIL

1949 YEARBOOK COMMITTEE

Walter A. Spearin, Salisbury ..... Chairman

William J. Flohr, Westminster ..... Secretary
In Charge of Advertising

Wade H. Rice, College Park ..... Editor

Mrs. W. W. Hopkins, Cordova ..... Treasurer

Dr. M. A. Jull, College Park ..... Ex Officio

LIBRARY
UNIVERSITY OF MARYLAND
COLLEGE PARK, MD.

1948 OFFICERS

Maryland State Poultry Council

Maryland
SF
481
.M35
1949-54

President ..... Walter A. Spearin, Salisbury
1st Vice President ..... William J. Flohr, Westminster
2nd Vice President ..... D. Ernest Matthews, Salisbury
Treasurer ..... Mrs. W. W. Hopkins, Cordova
Secretary ..... Wade H. Rice, College Park

AFFILIATED ORGANIZATIONS

MARYLAND R.O.P. POULTRY BREEDERS

President ..... W. P. Eckrich, Mt. Airy
Vice Pres. ..... L. E. Fiery, Smithsburg
Sec. Treas. (Protem)....S. Ahmuty, Odenton

MARYLAND TURKEY PRODUCERS ASS'N.

President ..... H. L. Norman, Charlotte Hall
Vice Pres. ..... Samuel A. Royer, Thurmont
Treasurer .... Geo. F. Hawkins, Glen Burnie
Sec. (Protem)....Dr. M. A. Jull, College Park

WESTMINSTER COOPERATIVE POULTRY PRODUCTS AUCTION

President ..... Wm. J. Flohr, Westminster
Vice Pres. ..... A. H. Gehman, Finksburg
Sec.-Treas. ..... Paul Shipley, Westminster

SOUTHERN STATES EASTERN SHORE MARKETING COOP.

President ..... Harry H. Rieck, Preston
Vice Pres. ..... V. A. McCabe, Frankford, Del.
Sec.-Treas. .... C. Bounds Phillips, Quantico

ANNE ARUNDEL COUNTY POULTRY ASSOCIATION

President ..... Samuel Ahmuty, Odenton
Vice Pres. .... Mrs. Frances Howard, Odenton
Sec.-Treas. ..... P. S. Taylor, Jr., Gambrills

CAROLINE COUNTY POULTRY ASS'N

President ..... William Engerman, Denton
Vice Pres. ..... Wm. Kleinwachter, Preston
Treasurer ..... Frank D. Ziegler, Denton
Secretary .... Mrs. Mildred R. Kern, Denton

CECIL COUNTY POULTRY ASSOCIATION

President ..... John Martinuk, Elkton
Vice Pres. ..... Carl W. Eklund, Northeast
Sec.-Treas. .... Mrs. Leo Bonin, Rising Sun

HARFORD COUNTY POULTRY ASS'N

President ..... Robert Richardson, Street
Vice Pres. ..... Carroll Thornton, Street
Secretary ..... Fred W. Fuller, Jarretsville
Treasurer ..... A. J. Jones, Street

MARYLAND TRI-COUNTY POULTRY ASSOCIATION

President ..... C. Bounds Phillips, Quantico
Vice Pres. ..... P. W. Dryden, Snow Hill
Sec.-Treas. ..... R. C. Street, Princess Anne

TALBOT COUNTY POULTRY ASSOCIATION

President ..... Allen M. Bradley, Easton
Vice Pres. ..... Lee S. Whitely, Easton
Secretary ..... Chas. F. Schuck, Easton
Treasurer ..... Ira A. Nelson, Trappe

MR 1 - '52

Greetings

To All Maryland Poultrymen

The poultry industry of Maryland has risen to even greater importance in the State's agriculture during the post-war years. The value of its products in 1947 was over $62,000,000 or more than one-third of the gross income of Maryland farmers.

Since there was practically no poultry industry in the State at the turn of the present century, this constitutes a remarkable success story in the history of the economic progress of the State.

Naturally, such a phenomenal growth by an industry will be fraught with many problems, such as efficient production methods and competition by other producing areas for our markets.

The degree of success in meeting these problems will largely be determined by the vision and ability of the leadership supplied by the industry itself. For that reason, the Maryland State Poultry Council is deserving of the full support of every poultry producer within the State.

Given that leadership and my assurance of full cooperation of all state agencies concerned in the welfare of our poultry industry, no one can doubt that even greater things are in store for the industry in the future.

WM. PRESTON LANE, JR.
Governor of Maryland

207657

Sherwood Feed Mills

INCORPORATED

Manufacturers — Wholesalers

MULTI-VITA BRAND MIXED FEEDS

SHERWOOD BRAND MIXED FEEDS

Poultry - Dairy - Hog - Livestock - Horse

- **(MULTI-VITA) CONCENTRATES -**
  Fortified All-Purpose Minerals
- **(MULTI-VITA) DRIED BREWERS' YEAST -**
  Rich in vitamins. Especially recommended for Poultry Feeding.
- **DRIED BREWERS' GRAINS**
- **GRAINS**
  Whole, Ground, Crimped or Cracked.
- **FEED INGREDIENTS**
- **SCRATCH GRAINS**
- **BLACKSTRAP MOLASSES -**
  Delivered by our tank trailers at refinery cost plus rail tank car rate.

IMMEDIATE DELIVERY BY OUR TRAILERS IN SMALL OR LARGE QUANTITIES
REASONABLE RATES TO ALL LOCALITIES

RAIL CAR SHIPMENTS MILLING-IN-TRANSIT RATES

TELEPHONE YOUR INQUIRIES COLLECT - SARATOGA 4050

▼

500 PRESIDENT STREET

Baltimore, Maryland

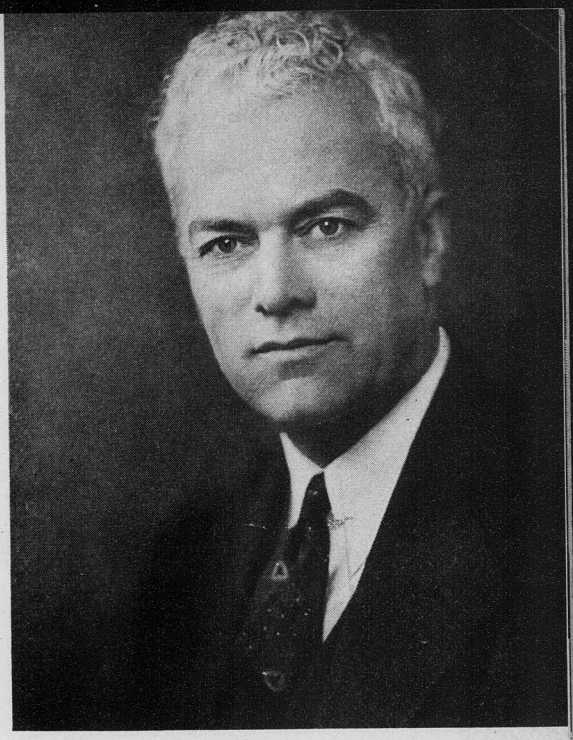
Greetings

to

Maryland

Poultry

Producers



I hope that every Maryland poultry producer who examines this issue of the Maryland Poultry Yearbook will realize that he is an integral part of Maryland's largest agricultural industry.

As such, he owes it to the future of himself and his family to analyze carefully his present and future operations with a view to future economic security.

In such an analysis, many poultry problems, such as breeding, nutrition, physiology, marketing, disease control, economics, and farm management, will naturally arise.

To assist in solving these problems is one of the many functions of this University.

Our Poultry Husbandry Department and Livestock Sanitary Service, with the addition of the Broiler Research and the proposed New Disease Control Laboratory at Salisbury, as well as improved facilities at College Park, will be enabled to render you the best service available to the poultrymen of any state.

With more students enrolled in Poultry Husbandry courses, and with the greatest demand for poultry extension work in the history of the state, we are making every effort within our means to be of the greatest service to all branches of the industry.

H. C. BYRD, President
University of Maryland

It's The Results That Count

that's why

STICKELL'S

Blue Ridge — Su-Pur

QUALITY MASHES

Are So Popular With Successful Poultrymen

Each mash is a scientific blend of the various materials that the latest developments in poultry nutrition research have proven will produce the best results for

Layers - Broilers - Baby Chicks - Growing Birds
Breeder Flocks - Turkeys

A Quality Mash For Every Need

▼

D. A. STICKELL & SONS, Inc.

Hagerstown, Maryland

Greetings

To The Poultry Producers Of Maryland

Dear Friends:

Just a note to express our appreciation to the poultry producers of the State for their cordial cooperation with the College of Agriculture and all of its divisions during the past year.

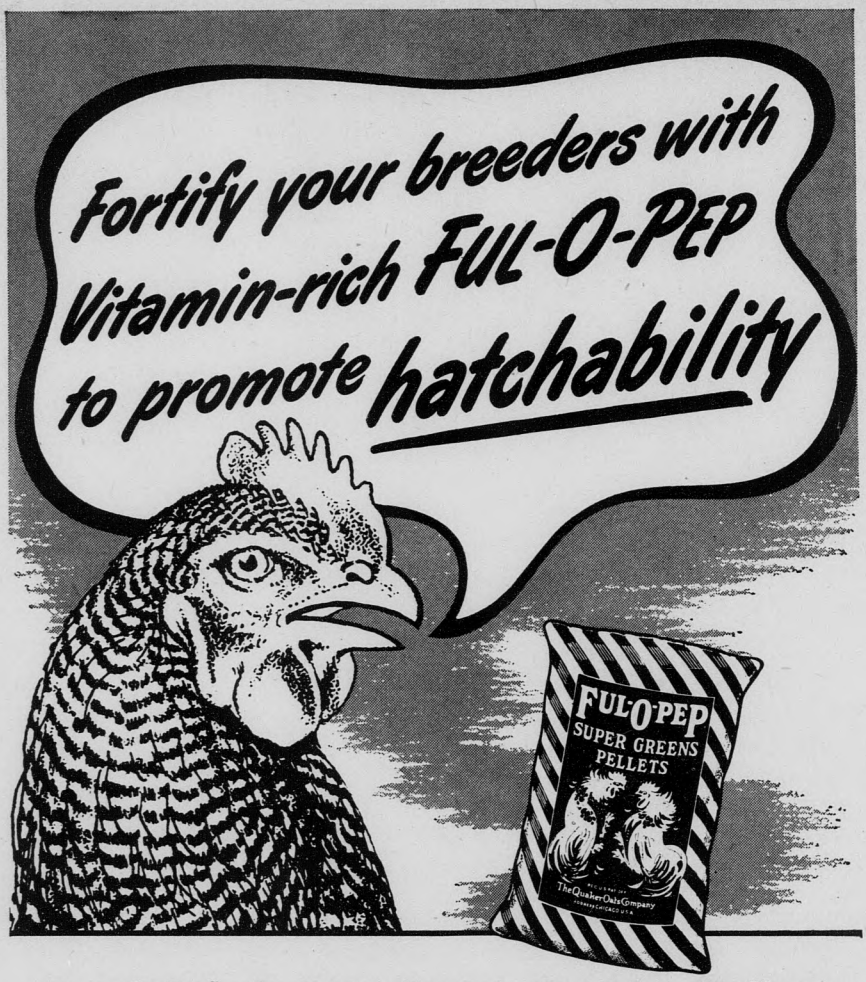
You have experienced fluctuations in the marketing of poultry and poultry products during the year. It would seem that the present outlook is good for poultry in 1949. There remains a wonderful opportunity to increase efficiency in production and the better grading of products for sale.

We are making commendable progress. We have received petitions from the industry for increased specialist personnel and these recommendations are being submitted to the Board of Regents and Legislature. We are sincerely hoping that adequate funds will be provided for erecting a satisfactory broiler house on the new poultry farm acquired during the past year on the Eastern Shore. This should serve as a great incentive and assistance to the broiler industry in that territory. I also hope that we may further promote ROP work and meet the challenge of producing quality eggs for our hatcheries. We should not permit the sending of so much money outside of the State for the purchase of eggs when the industry is thoroughly capable of producing this supply within our territory.

Let us hope that in 1949 we will make decided progress toward these goals.

Sincerely yours,

T. B. SYMONS,
Dean and Director


Fortify your breeders with Vitamin-rich FUL-O-PEP to promote hatchability
FUL-O-PEP
SUPER GREENS PELLETS
The Quaker Oats Company

Feed Ful-O-Pep Super Greens Pellets with regular mash. Easy... economical!

Yes, your breeding flock needs a ration rich in vitamins to produce eggs that *hatch strong, sturdy chicks.*

That's why so many successful poultrymen feed Ful-O-Pep Super Greens Pellets along with their mash . . . for this *vitamin-rich* feed helps promote flock health, heavy laying and high hatchability.

Special Vitamin Boost

You see, Ful-O-Pep Super Greens Pellets contain Concentrated Spring Range*—Nature's Richest Vitamin Combination—which is made from fresh green grass itself. This special Vitamin Boost—combined with other vitamins, proteins and organic-source minerals—*fortifies your ration* with many nutrients needed for high fertility, hatchability and livability.

What's more, hens take to Super Greens Pellets readily. All you do is sprinkle a few on top of the mash according to directions.

So see your local Ful-O-Pep Dealer, or for more information write today to . . .

**Reg. U. S. Pat. Off.*

THE QUAKER OATS COMPANY, Chicago 4, Ill.

Greetings

to the

Maryland State

Poultry Council

The poultry industry of Maryland has expanded beyond all expectations since the beginning of the War. With this rapid growth it is important that the industry have organizations and leadership. The Maryland State Poultry Council has been the voice for all poultry producers within the State. It is important that the Council continue its activities, that it continue to grow and to furnish intelligent, broad leadership that every expanding enterprise must have.

The University of Maryland has always worked closely with the Council and with poultry producers in general. It is to be hoped that this close-working relationship can and will continue to grow for the benefit of all poultrymen in Maryland and for the State of Maryland as a whole.

Organization and cooperation are becoming more and more important as our country develops in size and complexity. The Maryland State Poultry Council, working with all groups can give a splendid demonstration of intelligent organization coupled with far-sighted cooperative leadership.

R. B. CORBETT
Assoc. Dean and Assoc. Director
College of Agriculture
University of Maryland

MARYLAND POULTRYMEN'S HOMES

Egg

LIGHTING HENS FOR EGG PRODUCTION

The use of artificial light to stimulate birds dates far back into history. The early Chinese are reported to have found that their pet canaries sang more when a lighted candle was left by the cage at night. The first report of the use of artificial lighting of poultry houses dates back to 1889.

It has previously been supposed that the primary reason for using lights was to give the fowl a longer working day thus inducing greater feed consumption which in turn resulted in increased egg production. We now know that the increased feed consumption is a result and not a cause of higher egg production. The explanation of the increased egg production lies in the fact that light acting through the eye causes the anterior pituitary gland to secrete more of the hormone that stimulates the ovary. This stimulation of the sex glands by the additional light explains the results observed by the early Chinese in the canary as well as the increase in egg production of our present day laying flocks.

It has been repeatedly demonstrated that a maximum of stimulation from light occurs when the hens have a fourteen hour day. It does not seem to make any difference whether the additional

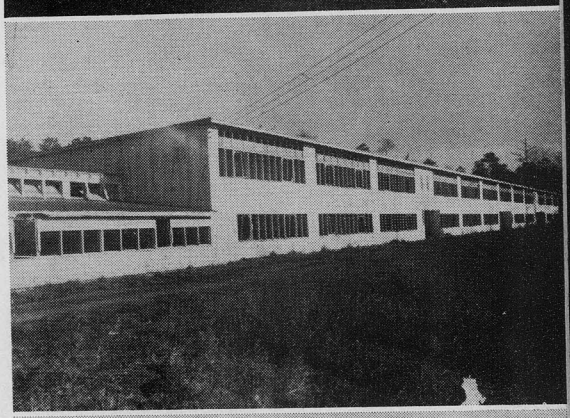
Section

light is given at night or in the morning; however, morning lights are more commonly used as this does not entail the use of any system to dim the lights before turning them off. All-night lights of low wattage have proven satisfactory, particularly for use with yearling hens. To be most effective, the lighting arrangement must be such that the roosts as well as the floor are illuminated.

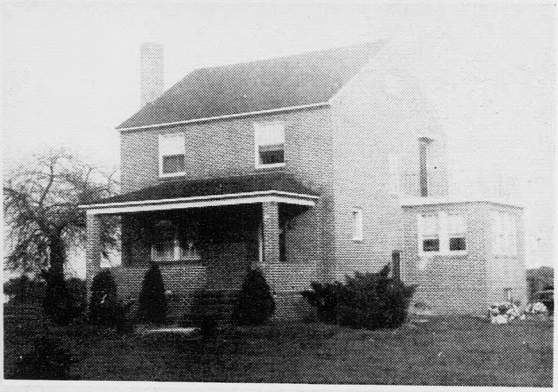
Two weeks is about the minimum length of time required for a response in egg production after starting to use artificial lights. This minimum time is associated with the fact that it takes about two weeks for the ovary to develop an egg yolk.

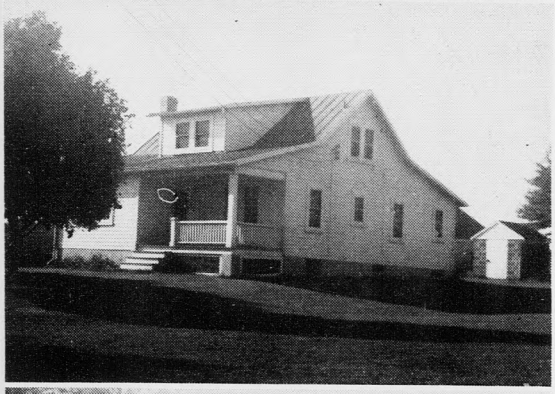
Artificial lights are useful primarily in securing more eggs during the season of highest prices. Pullets can be stimulated to lay more fall and early winter eggs and yearling hens to produce further into the fall season. Lights are likewise useful in bringing the breeder hen into production early in the hatching season; however, the breeders should not be lighted through the fall season.

C. S. SHAFFER
Poultry Department
University of Maryland



MARYLAND LAYING HOUSES AND RANGES





MARYLAND POULTRYMEN'S HOMES

Egg

LIGHTING HENS FOR EGG PRODUCTION

The use of artificial light to stimulate birds dates far back into history. The early Chinese are reported to have found that their pet canaries sang more when a lighted candle was left by the cage at night. The first report of the use of artificial lighting of poultry houses dates back to 1889.

It has previously been supposed that the primary reason for using lights was to give the fowl a longer working day thus inducing greater feed consumption which in turn resulted in increased egg production. We now know that the increased feed consumption is a result and not a cause of higher egg production. The explanation of the increased egg production lies in the fact that light acting through the eye causes the anterior pituitary gland to secrete more of the hormone that stimulates the ovary. This stimulation of the sex glands by the additional light explains the results observed by the early Chinese in the canary as well as the increase in egg production of our present day laying flocks.

It has been repeatedly demonstrated that a maximum of stimulation from light occurs when the hens have a fourteen hour day. It does not seem to make any difference whether the additional

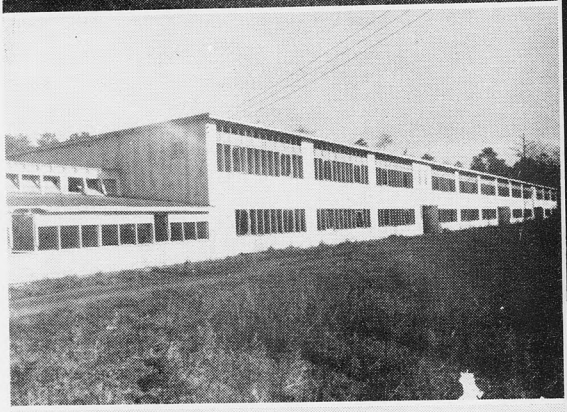
Section

light is given at night or in the morning; however, morning lights are more commonly used as this does not entail the use of any system to dim the lights before turning them off. All-night lights of low wattage have proven satisfactory, particularly for use with yearling hens. To be most effective, the lighting arrangement must be such that the roosts as well as the floor are illuminated.

Two weeks is about the minimum length of time required for a response in egg production after starting to use artificial lights. This minimum time is associated with the fact that it takes about two weeks for the ovary to develop an egg yolk.

Artificial lights are useful primarily in securing more eggs during the season of highest prices. Pullets can be stimulated to lay more fall and early winter eggs and yearling hens to produce further into the fall season. Lights are likewise useful in bringing the breeder hen into production early in the hatching season; however, the breeders should not be lighted through the fall season.

C. S. SHAFFER
Poultry Department
University of Maryland



MARYLAND LAYING HOUSES AND RANGES

START YOUR CHICKS THE Best of All WAY

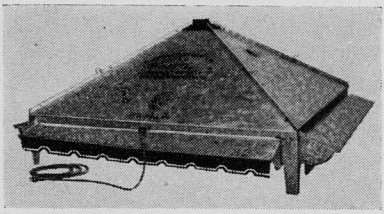
REG. U. S. PAT. OFF.

Model B735 — 5-Deck Starter

IN BATTERIES or ON THE FLOOR

For meat or eggs start chicks with Beacon "Best of All" brooders and raise them better at lower cost. Simply plug into any 110 volt electric outlet; set your thermostats for the right temperature; turn your chicks loose and let them grow.

Send for Free Catalog of Complete Line of Poultry Equipment



Model B12 — 60" Canopy Brooder

Beacon Steel Products Co., Inc.

Railroad Avenue — WESTMINSTER, MARYLAND — Phone 460

For HEALTHY BROILERS

Use the Rich, Tasty Solids of

SUPREME *Brand* CONDENSED BUTTERMILK

"The Genuine Condensed Buttermilk"
in the Yellow Barrel"

HERBERT K. CLOFINE
"The Milk-Man"
BULLETIN BUILDING
PHILADELPHIA 7, PA.
RIttenhouse 6-9885

Eastern Shore Representative — E. W. LYNCH — Seaford, Del. Seaford 3242

PRODUCING HATCHING EGGS FOR MARYLAND'S BROILER INDUSTRY

An estimated $5,000,000 or more per annum is being spent outside of Maryland for hatching eggs mainly for the broiler industry. These eggs are hatched by Eastern Shore hatcheries, and the chicks are distributed to the Del-Mar-Va Peninsula broiler area, and to broiler producers in Virginia, North Carolina and Georgia.

Maryland hatcherymen have been showing an increased interest in obtaining their supply of hatching eggs in Maryland. The increased income possible for Maryland flock owners presents therefore a nice business opportunity.

An especially favorable factor in the situation is that forward-looking hatcherymen are approaching the problem with a fine, genuinely cooperative attitude toward the flock owner. The flock owner must in turn reciprocate because the success of the individual project must depend upon the maintenance of a mutually helpful relationship between flock owner and hatcheryman.

To produce hatching eggs the flock owner must meet certain production conditions as follows:

1. He needs a flock size of no less than 400 layers, and he should have plans or desires to increase in capacity to the 1,000 bird level or more.
2. He must have the housing, the equipment and the determination to put out chicks in October, November, December, January or February, in order to have lots of good sized eggs in July, August, September, October and November. The flock owner who has hatching eggs in the spring months only is not in a good competitive position as far as broiler chicks are concerned.
3. He must have a satisfactory strain of layers suitable for broiler purposes, showing high hatchability, fast growth and seasonably good feathering. For the broiler industry this usually means the New Hampshire, but for the general hatchery, a good laying strain of New Hampshires, Barred Rocks or Rhode Island Reds is usually in greatest demand.
4. He must carefully manage his roosters to produce fertility of 95 percent or better in eggs set. This means enough roosters and good vigorous ones in addition.
5. A first-class breeding ration is a must, because of the effect of nutrition upon both hatchability and the livability of chicks during their early weeks.
6. The flock owner must control disease, especially pullorum disease for there is no place today for a slip-shod program in this regard. The hatcheryman cannot afford to take a chance on pullorum in his incubators.
7. The eggs should be gathered three times daily and stored in a cool, moist place, below 69 degrees, and preferably 50 to 55 degrees. In cold weather they should not be chilled excessively at or below freezing, but ordinary care will suffice as htaching eggs are much more resistant to chilling than to overheating. All eggs should be sent to the hatchery at least every seven days.
8. The eggs for the hatchery must be graded carefully for size, and must be reasonably clean. Excessively large or very small eggs are not desirable for hatching purposes. (Geo. D. Quigley, Poultry Dept., U. of Md.)

30 years

Of Faithful Service

And

Constant Improvement

Give You Our Fine

FULL BREASTED

Hampshire and Straight Cross

CHICKS

CAPACITY — 660,000

DRYDENS'

HATCHERIES

Snow Hill Maryland

Select Circulation!

Top News Coverage!

Good Advertising Results!

First In Public Service!

Preston Bay Country

News & Farmer

MAX CHAMBERS, Publisher

Preston — Maryland

Maryland Can Afford To Double Its Egg Production

According to the Maryland Crop Reporting Service, Maryland hens averaged in monthly number in 1947, 3,160,000, and laid 494,000,000 eggs during the year.

During the same year, less than 10 percent of the market eggs handled by wholesale egg receivers in both Baltimore and Washington originated in Maryland, the great bulk of them coming from Minnesota, Iowa, and Illinois, according to the Maryland Department of Markets.

Furthermore, 22 Del-Mar-Va hatcheries surveyed by Smith, Poffenberger, and DeVault in 1946-47 showed 86,109,370 eggs set of which only 17.2 percent came from local sources, 75.3 percent from New England, and 6.0 percent from Pennsylvania. Since Del-Mar-Va hatcheries set at least 117,000,000 eggs in 1947, local and Maryland poultrymen supplied only 20,000,000 of this 117,000,000 eggs.

From this it can be seen that production of quality market eggs, and broiler hatching eggs of high hatchability can both be doubled, and still fall short of supplying the local markets for these two classes of eggs.

This situation offers a golden opportunity to producers to expand their present laying flocks, as well as to new producers, such as veterans, 4-H clubs and F.F.A. members. However, it will require flocks of 500 birds or more to make the specialized operations necessary to success a profitable one. (W. H. Rice, Poultry Dept., U. of Md.)

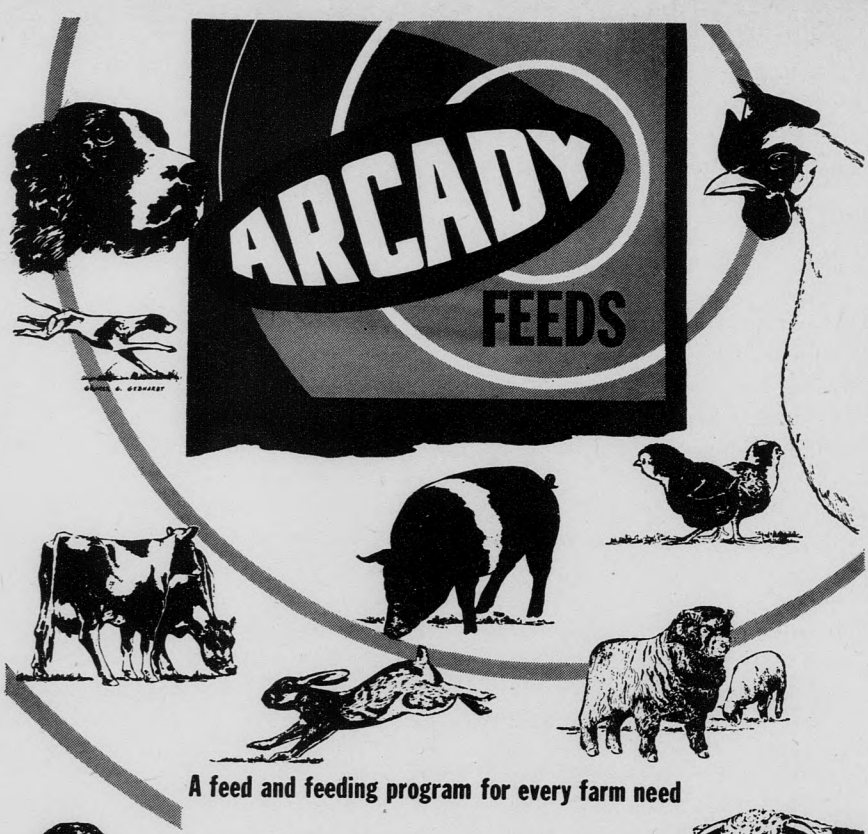
HEN CACKLES

An intake of 27 lbs. feed per 100 layers for Leghorns and 32 lbs. for heavier breeds per day should be maintained during the winter months for successful feeding.

Pouring a small amount of hot water or cod liver oil on top of mash or a few dabs of semisolid milk will help induce feed consumption with neck molting pullets or late molting hens.

Asphalt floors in poultry houses cost about 1/3 that of concrete and are very durable and moisture proof.

H.C.C.H., a new chemical fumigant and with the long name of hexachlorocyclohexane is one of the most effective lice killers yet devised. Experiments by the U. S. Bureau of Animal Industry shows it to be effective as both roost paint and spray, killing both eggs and lice. The powder in solution is harmless to birds.



A feed and feeding program for every farm need

There's an Arcady Program to fit your poultry and livestock operations. Arcady makes a complete line of 60 poultry, livestock, pet and specialty feeds. Arcady's fully staffed service departments stand ready to help with your management, feeding, disease and marketing problems. Ask your Arcady Dealer or write for the complete Arcady Program for your use. Without cost or obligation you receive illustrated, authoritative books, timely service letters and Farm News publication, free feed cost charts and calculators, record forms, building and equipment plans.

arcady farms

milling company

223 West Jackson Blvd., Chicago 6, Illinois

FEEDING FOR HIGH HATCHABILITY

Most of the laying flocks in the country are used for producing hatching eggs during the normal hatching season. In addition, thousands of flocks are used for out-of-season hatching-egg production, largely to supply chicks for broiler producers. In all cases, high hatchability is very important from the economic standpoint. Also, usually the higher the hatchability the better is the quality of chicks hatched.

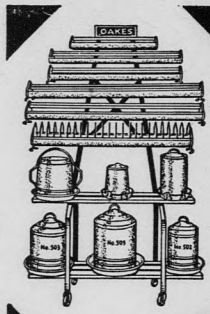
It is well recognized that birds given access to the ultra-violet rays of sunshine and succulent green pasture usually produce eggs superior in hatchability to eggs produced by birds of the same strain kept in strict confinement. It is possible, however, to secure very good hatchability from eggs laid by confined birds by adopting proper feeding methods. Breeders need relatively more riboflavin, pantothentic acid, biotin, and mangenese than layers kept solely for market egg production. Feed companies need to exercise considerable care in preparing chicken breeding mashes.

Vitamins A and D_3 are very important for good hatchability. The requirements of vitamin A for hatching-egg production are greater than for market-egg production, for the former approximately 2,000 International units constituting the minimum requirements.

In the case of breeding stock kept in confinement, great care should be taken to insure an adequate supply of vitamin D_3, the requirements of which are greater than for layers producing market eggs. About 350 A.O.A.C. units per pound of feed are the minimum requirements.

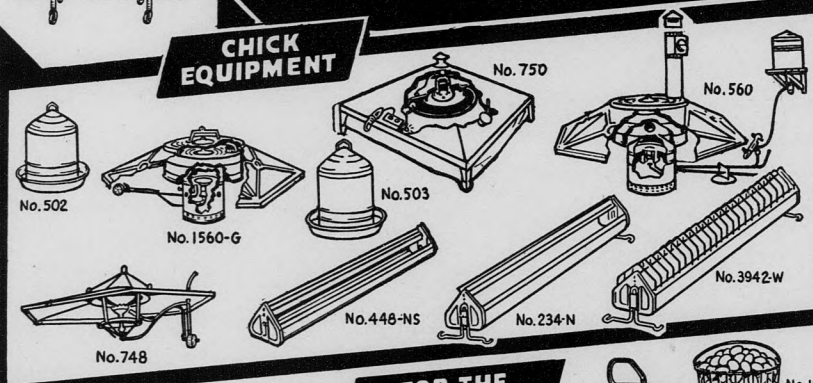
A market deficiency of calcium results in decreased hatchability but is usually not a serious problem. Particular attention must be given to manganese in the case of layers being used for the production of hatching eggs.

As far as the effects of protein supplements on hatchability are concerned, milk products and good quality fish meals usually give better results than most plant protein supplements. This is probably due in part to certain vitamins and minerals contained in animal protein supplements. Cottonseed meal and soybean meal have been shown to lower hatchability but if the proper levels of animal protein supplements are used in addition to soybean meal, satisfactory hatchability can be secured. (Morley A. Jull, U. of Md.)



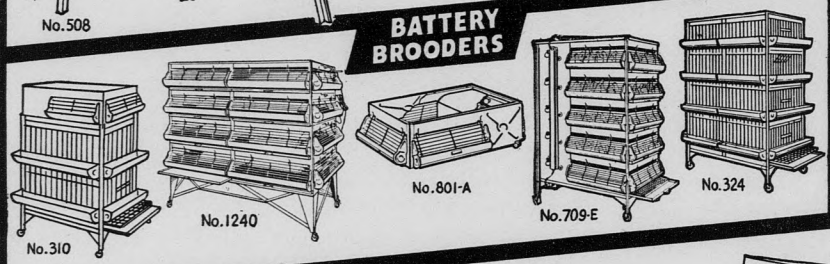
This DISPLAY ASSORTMENT Plus OAKES M.I. Plan Helps You Sell OAKES Complete Line of POULTRY EQUIPMENT

CHICK EQUIPMENT



FOR THE LAYING HOUSE

BATTERY BROODERS



Every dealer knows the value of a good display. Nothing is truer than the saying "Merchandise Well Displayed is Half Sold".

The display assortment shown above plus the recommendation of OAKES M. I. Plan will result in more profits to you. Dealers report increased sales and greater customer satisfaction.

OAKES M. I. Plan has helped thousands of poultrymen to prevent expensive feed waste, lessen labor and increase efficiency. This plan is approved by many poultry instructors.

There is an OAKES jobber near you. See him or write direct and ask for copies of the M. I. Plan booklet and new catalog No. 54.

OAKES "Sanitized" POULTRY EQUIPMENT

THE OAKES MFG. COMPANY
BOX 000 TIPTON, INDIANA

THE MOISTURE PROBLEM IN LAYING HOUSES

The water of vaporization given off by laying hens adds considerable moisture to the atmosphere of the laying house. This is important when hens are confined during the winter months. It is estimated that at 50°F. 100 four-pound hens exhale about 12 pounds of water daily. At higher temperatures, the rate of water elimination is increased. In one experiment, when hens were kept in an atmosphere in which the relative humidity was from 50 to 60 per cent, the rate of elimination of respiratory water remained fairly constant between 65° and 75°F., but at temperatures above 75°F. the rate tended to increase very rapidly after a temperature of 85°F. was attained. At 90°F. approximately three times as much water was eliminated as at 80°F. At prevailing temperatures in the majority of poultry houses during the winter months, it is safe to assume that at least 350 pounds of respiratory water are eliminated per 100 hens per month.

The amount of water eliminated in the droppings is more important than is the amount of respiratory water eliminated from the standpoint of maintaining a condition of relative dryness in the laying house during winter months. The quantity of droppings voided by laying hens in influenced by the size of the bird and the amount of feed and water consumed. Large hens laying at a high rate void much larger amounts than small hens laying at a low rate.

Only approximate estimates of water voided are available, but they are sufficient to indicate the large amounts of water voided by the average flock. Hens weighing about 5 pounds laying well will probably void over 150 pounds of droppings per bird per year. Strictly fresh droppings contain approximately 85 per cent moisture, the amount of water voided in the droppings being about 125 pounds per hen per year. Thus, during 6 months of confinement, a pen of 100 hens, of good size, would void in the house over 1,000 pounds of water per month, and a pen of 300 hens would void about 1.5 tons per month. Approximately between 2 and 3 per cent of the water supply provided for the birds is spilled on the litter, if there is no underground drainway, thus adding to the litter moisture problem.

The total amount of respiratory water and voided water in the droppings each month is about 1,350 pounds per pen of 100 birds, and per pen of 300 birds it would be about 2 tons.

The addition of such large amounts of water to the house atmosphere and litter requires some degree of ventilation of the laying house to avoid condensation of moisture on the walls and ceiling in cold weather and to facilitate evaporation of moisture from the litter. (Morley A. Jull, U. of Md.)

1949 will be one of the best years for Poultrymen in History.

CHICKS

BARRED ROCKS
NEW HAMPSHIRES
WHITE LEGHORNS

All Breeding Flocks are Maryland-United States Approved and Pullorum Passed.

SEXED CHICKS

FREE CATALOG

BRONZE POULTS

BRAMBLE POULTRY FARM
CHESTERTOWN, MD.
Phone 308
One of the Large Hatcheries of the East

Order Your CHICKS AND POULTS NOW!

HEN CACKLES

An English poultryman culls layers on the roost at night by feeling the crops of each bird for feed. After a normal evening grain feeding, birds with little feed in the crop are picked up and culled. A flock of 1,000 birds an evening can be culled by one man with this method if roosts are not too difficult to reach. Try it and save the culls a few days in a separate pen to test the method.

Clipping one wing of flighty Leghorn pullets often serves to greatly quieten the flock and stop flightiness.

Hatching eggs vs. market eggs is a pertinent subject in Maryland. What premium over market eggs is necessary to make hatching eggs more profitable? Per 100 hens - testing ————? Plus extra cost of breeder ration, plus loss of production of 8 hens, plus about $8.00 depreciation on the 8 males. This will figure an increased cost of about $.37 a dozen for 9 week period, $.19 a dozen for 17 weeks, $.09½ a dozen for 34 weeks, and $.06½ a dozen for 51 weeks including testing, unless the hatchery pays for it. This assumes an average lay of 55% for 52 weeks and a 40% production rate of salable hatching eggs. It costs more to produce hatching eggs.

COOL HOUSES MAKE GREATER POULTRY PROFITS

One of the losses experienced by Maryland poultrymen each year is that resulting from excessively hot and uncomfortable housing conditions. This loss is suffered to some degree each summer, but once every three or four years losses achieve rather spectacular and quite distressing dollar value, as in the summer of 1948.

Our losses from hot, uncomfortable houses occur when official temperatures of upwards of 90° are encountered, and the effects seems more severe if we have a sudden wave of hot, quiet days with little or no wind which follows a period of comparative cool weather. The most obvious evidence of this loss is the dead birds themselves, but secondary losses in broiler and laying flocks resulting from slower growth or reduced egg production are probably equally serious. For example, many Maryland poultrymen reported out-of-season molting among layers as a result of excessive temperatures during the summer of 1948.

Fortunately these losses can be reduced by fairly simple and inexpensive means. The first approach is to make certain that there is abundant cross ventilation from doors or windows located in the rear of the poultry house. Broiler houses are now built with this feature, but many laying houses are woefully lacking. Lots of cross ventilation allows the heat to escape rapidly if there is a slight breeze outside, but ventilation alone is not very effective on hot, still days.

A new and very promising additional help is the use of aluminum products upon the roof, as aluminum sheets, aluminum roll roofing, or aluminum paint. These materials reflect the heat of the sun upward and keep the interior considerably cooler. These differences are quite substantial, ranging up to 6 degrees cooler at bird level. At ceiling height differences of up to 15 degrees have been observed. An additional use of aluminum has appeared in the past 4 years, a mixture of asphaltum and aluminum flakes which provides a waterproof dressing for the roof, plus aluminum for reflective insulation.

Since most of these materials provide both roofing and summer insulation, their cost seems to be within the practical range and their use among poultrymen is increasing. To get best results, however, the user should study carefully the directions for application provided by the manufacturer, since aluminum is somewhat different than many similar products with which the farmer is familiar.

The Maryland Agricultural Experiment Station is also experimenting with chemical methods of relieving heat prostration in chickens, but the treatment, while promising, seems destined for only individual treatment. (Geo. D. Quigley, Poultry Dept., U. of Md.)

For NEW HAMPSHIRES
Write NICHOLS
of KINGSTON, N. H.

A FAMOUS NAME — A FAMOUS STRAIN

Built on Customer Satisfaction

The feel of cash—the biggest reason of all for the popularity of the Nichols strain with broiler growers, breeders and hatcherymen, nationally and abroad.

DEVELOPED ESPECIALLY FOR BROILER GROWERS

Bred for definite characteristics—vitality and livability, fast growth, rate of feathering, good color, excellent meat quality—that means lower production costs and a higher income to broiler growers. Growers remark on the all-round high quality of Nichols New Hampshires, quality developed through breeding know-how—individual selection and progeny testing.

EARLY MATURITY—BIG EGGS—HIGH HATCHABILITY

"Uniformity in All Breeding Factors" is first in Nichols 10-point breeding program. The Nichols strain is a meat strain, but hatchability of all eggs set, very early sexual maturity and early large egg size receive equal attention in the breeding program. The result: low breeding flock replacement costs, a high percentage of hatching eggs to sell, more good chicks from each case of eggs.

Our new catalog gives the background of the Nichols N.H., U.S. Approved—Pullorum Clean strain. Write for your copy, today.

NICHOLS POULTRY FARM, INC.

BOX 42 KINGSTON, N.H.

HEN CACKLES

The Kentucky Station reports feed savings of 10 to 20% in year old laying hens having access to seasonal pastures of lespedeza, blue grass, alfalfa, and rye, with blue grass silage in winter. No difference was noted in number, size, or hatchability of eggs according to pasture or silage used, but pastured and silage fed hens laid more eggs than those not having pasture or silage.

D.D.T. paint inside poultry buildings eliminates flies and spider webs, reduces odors, and improves light.

Baffle boards above the windows to direct the change of air in laying houses appears to be one of the best developments in recent years to control excess moisture in the laying house.

Electric exhaust fans are being installed in many poultry houses to keep litter dry during wet spells and to move the air during heat spells of summer.

A 24'x24' hen shelter can accommodate about 400 hens with range throughout late spring, summer, and fall until marketed. This releases laying house space for early hatched pullets, which is so often needed by producers of broiler hatching eggs. One shelter to each 1,000 pullets is a valuable asset.

Contrary to a deep impression held by many poultrymen, hens seldom if ever need a laxative for digestive reasons.

Chicks up to 12 weeks grow as well without grit as with it, but laying hens produce more eggs on less feed when fed grit. Common gravel is as good as any grit, recent tests show.

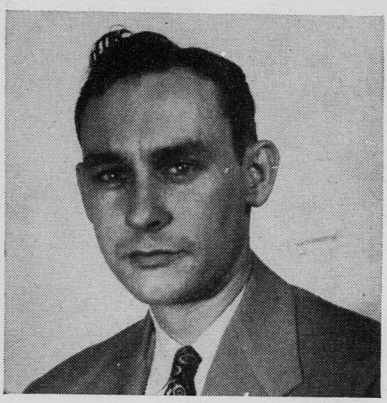
A lime spreader drawn by a tractor has been used successfully to feed grain and pellets to both chickens and turkeys on range at a saving in labor.

In Iowa Demonstration Flocks in 1947, confined layers averaged 28 eggs more per bird, ate 2.3 lbs. more of feed, produced eggs at $.05 per dozen less cost, and showed a profit per hen of $.70 more per bird than hens allowed to run loose on the farm.

Single pens housing up to 1,000 layers, ground floor doors to admit trucks or manure spreaders for cleaning, large community nests, feed tracks or chutes in multi-storied laying houses is the current answer to the labor cost problem.

A trailer mounted cage on two wheels to hold 100 pullets saves labor in moving pullets to range shelters and in transferring them from range to laying houses. If doors can be arranged to meet, birds may be driven into the cage and driven out at their destination.

A light feeding of skimmilk or semisolid to layers during a change in feed or feeding practice will minimize effects of the change on production.



Dr. Gerald F. Combs joined the poultry staff of the University of Maryland on September 1. He is in charge of research in poultry nutrition and will do teaching and extension work. Dr. Combs succeeds Dr. G. M. Briggs.

SENECA PARK

Poultry Farm & Hatchery

BABY CHICKS

HATCHING EGGS

State Bloodtested
Pullorum Clean

S. C. White Leghorns

N. H. Reds, R. I. Reds

—o—

Order your chicks from a well known breeder with 26 years experience.

—o—

HERMAN L. ALTENBURG

Rt. 14, Box 701 — Phone Chase 2461
Baltimore 20, Md.

Hatchery

MARYLAND HATCHERIES AND DEALERS

With Official Ratings — 1948

MD.-U.S. R.O.P. BREEDERS

Alexander, Jas. H.—R. 16, Box 126, Balto. 21
S.C.W.L.—Clean

Eckrich, W.P.—Mt. Airy—S.W.C.L.—Clean

Fiery, J. F.—Smithsburg—N.H.—Clean

Hoag's Norbeck Hatchery—Rockville
S.C.W.L.—B.P.R.—Clean

Hillside Turkey Farm—Thurmont
White Holland (Turkeys)—Clean

Sattler, Mrs. A. W.—Monkton
Bourbon Red (Turkeys)
Broad Breast Bronze—Clean

MD.-U.S. CERTIFIED, PULLORUM-CLEAN HATCHERIES

*Ahmuty's Certified Hatchery—Odenton

*Alexander, James H.—R.16, Box 126, Baltimore 21

*Eckrich, W. P.—Mt. Airy

Fiery's Hatchery—Smithsburg

*Heiner's Hatchery, Fork

MD.-U.S. APPROVED, PULLORUM-CLEAN HATCHERIES

Cowan's Hatchery—Bowie

Cumberland Valley Hatchery
Maugansville

Dornbush, Geo. J.—Prince Frederick

*Elder Bros.—Hyde

Hastings Hatchery—Parsonsburg

Hoag's Norbeck Hatchery—Rockville

Laurel View Hatchery—Laurel

Mathew's Hatchery—Salisbury

*Mayne, Mehrl—R. 4—Rockville

Morris, R. C.—Trappe

*Quigley, George D.—Laurel

*Scaggs, M. E.—R. 1—Laurel

***Seneca Park Poultry Farm**
R. 14—Box 701— Balto. 20

*Smith, William—Hanover

Section

MARYLAND HATCHERIES AND DEALERS

With Official Ratings — 1948

Spearin's Hatchery—Salisbury

*Steinmann Farms—Bel Air

*Stevenson, I. E.—Hanover

*Windsor, E. F.—R. 1—Annapolis

Maryland Chick Hatchery—Frederick

MD.-U.S. APPROVED, PULLORUM-PASSED HATCHERIES

Andrews, James A.—Hagerstown

Beck's Hatchery—Mt. Airy

Bradley's Hatchery—Easton

Bramble Poultry Farm—Chestertown

Carr's Hatchery—Rockville

Duckworth's Hatchery—Hanover

Dunn's Hatchery—Cambridge

Eglantine Farms—Greensboro

Eiker, Walter—Sudlersville

Evering's Hatchery—R. 16, Box 69, Baltimore 21

Farlow's Hatchery—Pittsville

Foard's Hatchery—Rocks

Hayes Hatchery—Thurmont

Hayden, T. G.—Centreville

Hines' Hatchery—Olney

*Jeaneva Poultry Farm—Annapolis

*Kelly, Albert F.—Sykesville

*Kinchelo, B. C.—Clinton

Knox, Geo. Edward—Finksburg

Lawyer's Hatchery—Thurmont

*Lindsay, Ralph—Silver Spring

*Manor Hatchery—Monkton

Milford Hatchery—Randallstown

*Morse, J. M.—Forest Hall

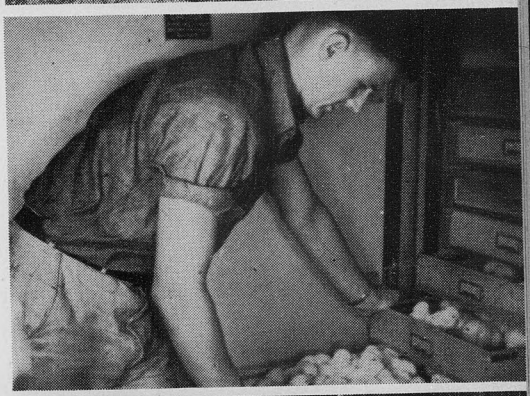
Mt. Airy Poultry Farm—Mt. Airy

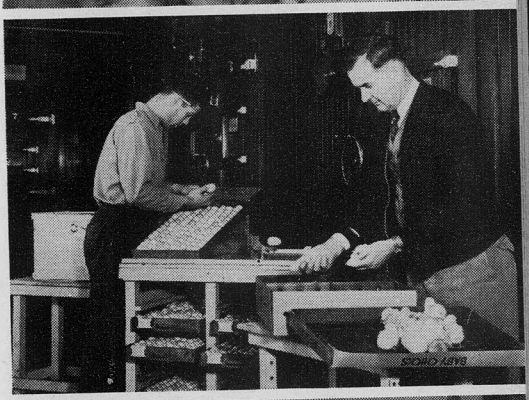
Nock's Snow Hill Hatchery—Snow Hill

Rehobeth Hatchery—Rehobeth

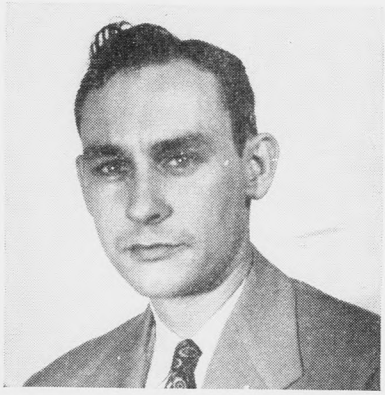
Southern Maryland Hatchery—Aquasco

Stonesifer's Hatchery—Keymar





MARYLAND HATCHERIES ARE AMONG THE NATION'S BEST



Dr. Gerald F. Combs joined the poultry staff of the University of Maryland on September 1. He is in charge of research in poultry nutrition and will do teaching and extension work. Dr. Combs succeeds Dr. G. M. Briggs.

SENECA PARK

Poultry Farm & Hatchery

BABY CHICKS

HATCHING EGGS

State Bloodtested
Pullorum Clean

S. C. White Leghorns

N. H. Reds, R. I. Reds

—o—

Order your chicks from a well known breeder with 26 years experience.

—o—

HERMAN L. ALTENBURG

Rt. 14, Box 701 — Phone Chase 2461

Baltimore 20, Md.

Hatchery

MARYLAND HATCHERIES AND DEALERS

With Official Ratings — 1948

MD.-U.S. R.O.P. BREEDERS

Alexander, Jas. H.—R. 16, Box 126, Balto. 21
S.C.W.L.—Clean

Eckrich, W.P.—Mt. Airy—S.W.C.L.—Clean

Fiery, J. F.—Smithsburg—N.H.—Clean

Hoag's Norbeck Hatchery—Rockville
S.C.W.L.—B.P.R.—Clean

Hillside Turkey Farm—Thurmont
White Holland (Turkeys)—Clean

Sattler, Mrs. A. W.—Monkton
Bourbon Red (Turkeys)
Broad Breast Bronze—Clean

MD.-U.S. CERTIFIED, PULLORUM-CLEAN HATCHERIES

*Ahmuty's Certified Hatchery—Odenton

*Alexander, James H.—R.16, Box 126, Baltimore 21

*Eckrich, W. P.—Mt. Airy

Fiery's Hatchery—Smithsburg

*Heiner's Hatchery, Fork

MD.-U.S. APPROVED, PULLORUM-CLEAN HATCHERIES

Cowan's Hatchery—Bowie

Cumberland Valley Hatchery
Maugansville

Dornbush, Geo. J.—Prince Frederick

*Elder Bros.—Hyde

Hastings Hatchery—Parsonsburg

Hoag's Norbeck Hatchery—Rockville

Laurel View Hatchery—Laurel

Mathew's Hatchery—Salisbury

*Mayne, Mehrl—R. 4—Rockville

Morris, R. C.—Trappe

*Quigley, George D.—Laurel

*Scaggs, M. E.—R. 1—Laurel

***Seneca Park Poultry Farm**
R. 14—Box 701— Balto. 20

*Smith, William—Hanover

Section

MARYLAND HATCHERIES AND DEALERS

With Official Ratings — 1948

Spearin's Hatchery—Salisbury

*Steinmann Farms—Bel Air

*Stevenson, I. E.—Hanover

*Windsor, E. F.—R. 1—Annapolis

Maryland Chick Hatchery—Frederick

MD.-U.S. APPROVED, PULLORUM-PASSED HATCHERIES

Andrews, James A.—Hagerstown

Beck's Hatchery—Mt. Airy

Bradley's Hatchery—Easton

Bramble Poultry Farm—Chestertown

Carr's Hatchery—Rockville

Duckworth's Hatchery—Hanover

Dunn's Hatchery—Cambridge

Eglantine Farms—Greensboro

Eiker, Walter—Sudlersville

Evering's Hatchery—R. 16, Box 69, Baltimore 21

Farlow's Hatchery—Pittsville

Foard's Hatchery—Rocks

Hayes Hatchery—Thurmont

Hayden, T. G.—Centreville

Hines' Hatchery—Olney

*Jeaneva Poultry Farm—Annapolis

*Kelly, Albert F.—Sykesville

*Kinchelo, B. C.—Clinton

Knox, Geo. Edward—Finksburg

Lawyer's Hatchery—Thurmont

*Lindsay, Ralph—Silver Spring

*Manor Hatchery—Monkton

Milford Hatchery—Randallstown

*Morse, J. M.—Forest Hall

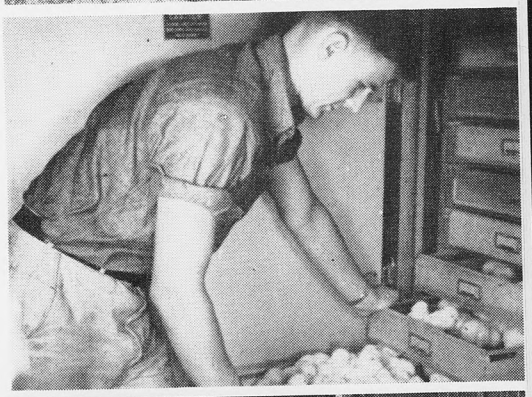
Mt. Airy Poultry Farm—Mt. Airy

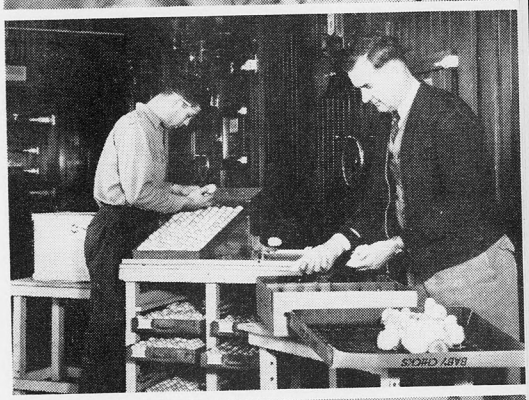
Nock's Snow Hill Hatchery—Snow Hill

Rehobeth Hatchery—Rehobeth

Southern Maryland Hatchery—Aquasco

Stonesifer's Hatchery—Keymar





MARYLAND HATCHERIES ARE AMONG THE NATION'S BEST

WE SPECIALIZE IN

Quality

BARRED-CROSS CHICKS

▼

SPEARIN HATCHERY

Snow Hill Road Salisbury, Md.

Telephone Salisbury 2082

The Better They Eat

The Better You Live

Semi-Solid

Chick Emulsion

BUTTERMILK & VITAMINS

Consolidated Products Company

PRINCETON, NEW JERSEY DANVILLE, ILLINOIS

MARYLAND HATCHERIES AND DEALERS

With Official Ratings — 1948

Streett's Hatchery—Rocks
Stull, Paul S.—Walkersville
Swift & Co.—Salisbury
Truslow Poultry Farm—Chestertown
West Denton Hatchery—Denton
Wilson's Hatchery—Rising Sun
*Winmar Hatchery—Silver Spring

MD.-U.S. PULLORUM-CLEAN HATCHERIES

Dryden's Hatcheries—Snow Hill
Esham's Hatchery—Parsonsburg
H & M Hatchery—Ocean City
Morris Poultry Farm—Bishopville
Peerless Hatchery—Showell
Perdue's Hatchery—Salisbury
Small and Bull Hatchery—Pocomoke

HATCHING EGG DEALERS

MD.-U.S. APPROVED, PULLORUM-CLEAN

Interstate Hatching Egg Service—Trappe
Merriken, L. S.—Federalsburg
O'Connor, M. A.—Pasadena (Turkeys)

MD.-U.S. APPROVED, PULLORUM-PASSED

Davis, Wilmer Fell—Federalsburg
Potts, Emmitt—Hillsboro

TURKEYS (only) HATCHERIES

MD.-U.S. APPROVED, PULLORUM-CLEAN

*Chewning, E. Taylor—Nutwell
*Hillside Turkey Farm—Thurmont
*Maple Heights Turkey Farm—Monkton
***Norman Turkey Farm—Charlotte Hall**
*Rugh's Turkey Farm—Elkton
***Sattler, Mrs. A. W.—Monkton**
*Thompson, H. Geo.—Great Mills

MD.-U.S. APPROVED, PULLORUM-PASSED

*Rader, Robert P.—Box 159, Towson 4
*Schramm's Turkey Farm & Hatchery
Pasadena

---

* Denotes breeder hatchery (hatches eggs from own flock only).

HATCHERY NOTES

Tests on holding temperatures for hatching eggs by Olsen and Haynes at U. S. Agr. Research Center involving eggs 1 to 5 days old and stored for 2 to 4 days and 6 to 8 days prior to incubation at levels of 30, 40, 50, 60, and 70° showed highest hatchability (78.6% for eggs stored at 50° F. for 6 - 8 days, and lowest (2.2%) in eggs stored at 30° F. for that time.

Subsequent tests at 50 and 55° on eggs held 7 to 42 days and incubated at 7 day intervals showed little difference in hatchability of these eggs for the first 21 days. Hatchability of eggs stored at 50° F. for 28, 35, and 42 days, was 50.0, 22.2 and 6.5% respectively, while eggs at 55° F. for these periods hatched only 26.3, 5.9, and 0.0% respectively. These tests were made on White Leghorn and Rhode Island Red eggs.

In a study of hatchability of brown eggs according to shade of color, Godfrey of the Ohio Station studying eggs of New Hampshires, White Plymouth Rocks, and Barred Plymouth Rocks found definitely lower hatchability of the lighter shade eggs as compared to those of medium, and darker shades.

As spring season progresses, many hens show a tendency to lay eggs of progressively lighter shade of color of shells, with a progressive decrease in hatchability.

"Telsex Service"

Established 1934

Expert Commercial Chick Sexing

At Your Hatchery

To obtain Telsex Service promptly on the Del-Mar-Va Peninsula, please contact our representative, Dale Berger, Parsonsburg, Md., Telephone, Salisbury — 2758 W-11.

TELSEX COMPANY

Springfield, Ohio

HATCHING EGG STORAGE TEMPERATURE

Morley A. Jull, University of Maryland

The temperature at which eggs are held prior to being incubated is quite important, a high temperature being more injurious than a low temperature.

Just how low the temperature may be allowed to go without endangering embryonic development has not been determined, although rather low temperatures for short periods do not seem to be particularly detrimental. The results given in the accompanying table show quite clearly that fertile eggs can be subjected to as low a temperature as -1°F. for about 10 hours and still give good hatchability. New Hampshire eggs were used in this test, the eggs being stored in egg cases. The cases, flats, and fillers served as insulation and prevented the eggs from freezing.

Hatchability of Eggs at -1°F. and of Controls held at 55° to 58°F., 100 Eggs Per Group

(M. A. Jull, M. G. McCartney, and H. M. El-Ibiary, 1948)

Hatch	Time Held	Approximate Internal Egg Temperature (°F)	Number of Fertile Eggs	Per Cent Hatchability
1	3 hours	30.2	100	77.0
	4 hours	30.2	100	80.0
	5 hours	30.2	100	82.0
	6 hours	30.2	98	83.7
	Controls, 6 hours	62.6	99	86.9
2	7 hours	30.2	95	68.4
	8 hours	30.2	95	83.1
	9 hours	30.2	97	88.6
	10 hours	30.2	97	83.5
	Controls, 10 hours	62.6	97	82.5

The results given in this table are of particular interest in demonstrating that subjecting hatching eggs to quite low temperatures immediately after the eggs are laid may be beeneficial. The benefit may derive from completely arresting cell development until the eggs are ready to be incubated.

As a general conclusion of the various investigations on the proper temperature at which to hold hatching eggs, it is apparent that about 50°F. is the best temperature. In warm weather, eggs should be gathered frequently and placed immediately in a temperature of about 50°F. In sections of the country where sub-zero weather prevails in the early hatching season, the eggs should be gathered frequently to avoid their becoming frozen or excessively chilled.

HYBRID CHICKS — While the laws of inheritance governing plants which has made hybrid corn possible are the same as those for animals, the successes with corn may be applied to chickens within the years to come. However, this work with chickens has just started and **no breeder yet has hybrid chickens** to offer **that possess** anything like the **advantages** over our well known breeds and crosses, that some corn hybrids possess over open pollinated varieties.

Broiler growers in some areas are bedding down new chicks on the old litter without floor cleaning. They report a saving in litter costs and no increase in mortality.

— SMALL & BULL-CHICKS —

PULLORUM CLEAN

Christie & Nichols Strain

New Hampshires and Cross Breeds

SMALL & BULL HATCHERY

TELEPHONE — 545 POCOMOKE CITY, MD.

IT PAYS TO FEED

WAYNE FEEDS

See Your Friendly

WAYNE DEALER

Who Displays The Wayne 3-Line Sign

ALLIED MILLS, INC.

Dist. Office — Harrisburg, Pa.

THE Chic-Tone CO'S INHALANT FOR POULTRY

REG. U.S. PAT. OFF.

THE ORIGINAL

IT'S DANGEROUS WHEN CHICKS OR MATURE BIRDS GASP!

PREVENT EPIDEMICS OF COLDS, CROUP, BRONCHITIS

Use Chic-Tone in the drinking water and the Chic-Tone Company's Inhalant in the air. Leading breeders and flock owners testify to the effectiveness of these products. — **Geth them from your dealer or write to**

THE CHIC-TONE CO., Dept. H, 129 Hamilton Ave., York, Pa.

PULLORUM CONTROL AND BREED IMPROVEMENT PROGRESS

PULLORUM DISEASE CONTROL. In 1927, 21 percent of all birds tested in Maryland were reactors, while this past season only 0.65 percent reaction was found.

Furthermore, in 1940 there was one Pullorum Clean hatchery in Maryland that had a 10,000 egg capacity, and 9 Pullorum Passed hatcheries with 80,000 capacity. In 1948, out of a total of 135 hatcheries with 13 million capacity, 36 were Pullorum Clean (6,949,160 capacity) and 38 were Pullorum Passed (4,490,580 capacity).

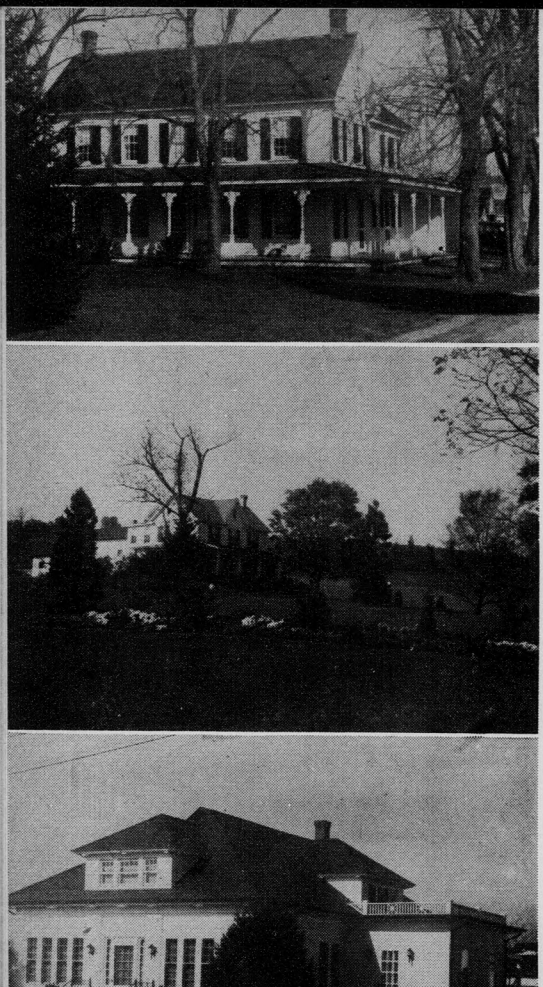
In 1939 there were only 13 Pullorum Passed and 2 Pullorum Clean flocks in Maryland out of a total of 1453 flocks tested. This past season there were 223 Pullorum Passed and 954 Pullorum Clean flocks out of a total of 1340 flocks tested.

Great progress has been made through continued testing and retesting, and by the flock owners using replacement stock from Pullorum Passed and Pullorum Clean sources, preferably the latter.

BREED IMPROVEMENT. Official recognition of supervised culling was started with the establishment of the N.P.I.P and N.T.I.P. This past season every hatchery in Maryland that qualified to operate under the National Plan and were using only hatching eggs produced in Maryland had a breed improvement (Certified or Approved) rating. Many hatcheries that were getting all or part of their eggs outside of Maryland, qualified for a breed improvement rating. This means practically all flocks in Maryland are being officially culled, according to the National Plan. Beginning July 1, 1950, all flocks in the U. S. operating under the National Plan must be officially culled.

The Del-Mar-Va Peninsula, of which Maryland is a large part, is the greatest broiler-producing area in the world. The finished broiler today is by far a superior bird to the broiler of ten years ago. Most of this increase in the meat quality of our poultry is due to the demand for a better carcass, much of which is accomplished through strict culling of the breeders, done largely under the N.P.I.P. rules and regulations. A great deal of credit in this progress is due the hatcherymen, who produce broiler chicks, when they demand hatching eggs from top quality breeders. The average egg production of hens has greatly increased since the beginning of the N.P.I.P. in 1935. The average hen house production in 1935 was 98 eggs per bird per year. In 1947 it was 118 eggs. It must be remembered that this is the average production of all birds housed. The hen-day average would be considerably higher. Most of this increase can be credited to the culling the breeders for egg production qualities and to the R.O.P. work, both of which are, to a large degree, due to the N.P.I.P.

The meat qualities and egg production of turkeys has greatly increased since the establishment of the N.T.I.P. A great deal of progress has been made in increasing the meat qualities and egg production of our poultry—the leading agricultural industry in Maryland (a 65 million dollar industry last year). More improvement can and will be made through the continued combined efforts of all people interested in poultry. (Chas. R. Davis, Supervisor, Maryland Poultry Improvement Plan)



MARYLAND BROILER PRODUCER'S HOMES AND BROILER HOUSES

Broiler

USE MORE EFFICIENT BROILER RATIONS

The successful broiler producer must pay particular attention to the ration he uses in order to produce broiler meat at the least possible cost. This means that he must select a ration which is nutritionally sound so that rapid growth and efficient utilization of feed are obtained.

Feed efficiency, when translated to practical terms, means the number of pounds of feed required to produce a pound of broiler. It can readily be seen, therefore, that not only the cost of feed per pound, but also the amount of feed required to make a pound of gain, will affect the cost of production. More pounds of a poor broiler feed are required to produce a unit of gain than are required when a high quality ration is used. The degree of efficiency with which the feed is utilized depends upon its nutritive properties. Since feed costs constitute approximately 60% of the total cost involved in broiler production, those nutritive properties of a ration which render it more efficient are of real importance.

Fortunately there is more information concerning the nutritive requirements of chickens than for any other species of farm animals. Although this information is not complete, considerable is known about the requirements for protein, minerals and vitamins. In this connection, recommended nutrient allowances have been set up for chickens and turkeys for most of the known nutrients by the National Research Council. Other unidentified or unrecognized factors exist, however, that must also be supplied. Ordinarily these are furnished by

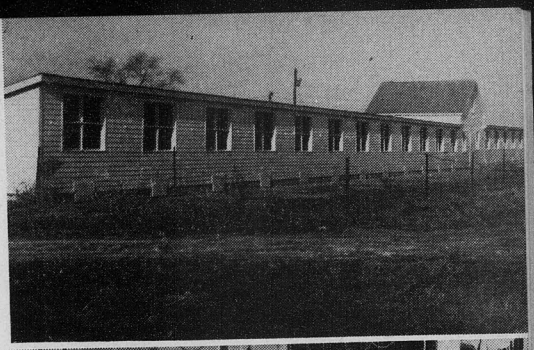
Section

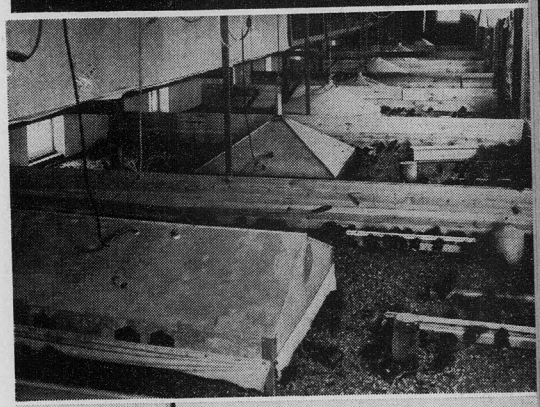
including a reasonable variety of feedstuffs in the ration, including a minimum amount of animal protein concentrates and those ingredients which are rich in vitamins. Dried whey, dried distillers' solubles, dried brewers' yeast and fermentation solubles are examples of feedstuffs that contain at least one of the unidentified factors required for rapid growth. Fish meal, fish solubles, meat scraps, dried skim milk, dried buttermilk, and liver meal are examples of animal protein concentrates that are known to contain an unidentified factor which is also required for growth and normal hatchability.

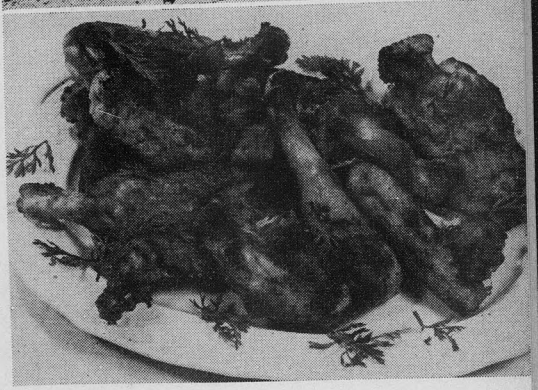
In addition to providing a diet which provides all the essential nutrients, the fiber content of broiler rations is important. Diets high in fiber are less readily digestible, hence decrease the feed efficiency. High fiber rations also have a greater bulk. If the feed is too bulky, it may limit the amount of food that is eaten and result in slower growth due to an inadequate intake of available energy. Although insoluble grit may aid in digestibility of high fiber feeds, it is recommended that the fiber content of a broiler ration should not exceed 5 or 6 per cent.

It should be remembered that good feed alone is not enough to insure good results. Good management, proper breeding and disease prevention and control are also very important factors that must be considered in profitable broiler raising. Frequently many difficulties which are attributed to a poor ration may be due to other causes.

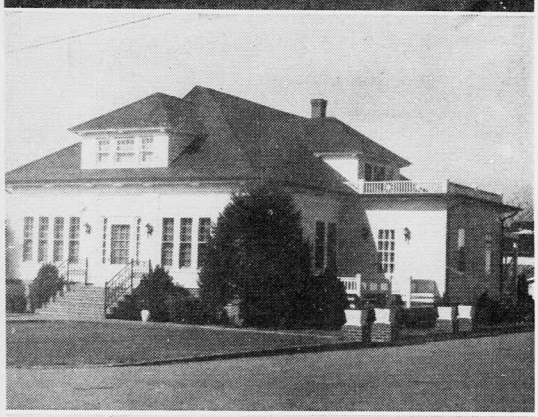
G. F. COMBS
Poultry Department
University of Maryland

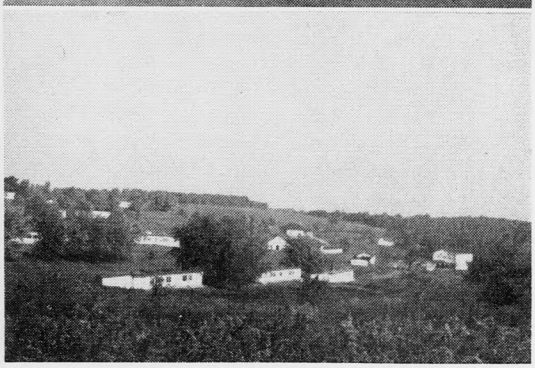






MARYLAND FRIED CHICKEN
IS WORLD FAMOUS





MARYLAND BROILER PRODUCER'S HOMES AND BROILER HOUSES

Broiler

USE MORE EFFICIENT BROILER RATIONS

The successful broiler producer must pay particular attention to the ration he uses in order to produce broiler meat at the least possible cost. This means that he must select a ration which is nutritionally sound so that rapid growth and efficient utilization of feed are obtained.

Feed efficiency, when translated to practical terms, means the number of pounds of feed required to produce a pound of broiler. It can readily be seen, therefore, that not only the cost of feed per pound, but also the amount of feed required to make a pound of gain, will affect the cost of production. More pounds of a poor broiler feed are required to produce a unit of gain than are required when a high quality ration is used. The degree of efficiency with which the feed is utilized depends upon its nutritive properties. Since feed costs constitute approximately 60% of the total cost involved in broiler production, those nutritive properties of a ration which render it more efficient are of real importance.

Fortunately there is more information concerning the nutritive requirements of chickens than for any other species of farm animals. Although this information is not complete, considerable is known about the requirements for protein, minerals and vitamins. In this connection, recommended nutrient allowances have been set up for chickens and turkeys for most of the known nutrients by the National Research Council. Other unidentified or unrecognized factors exist, however, that must also be supplied. Ordinarily these are furnished by

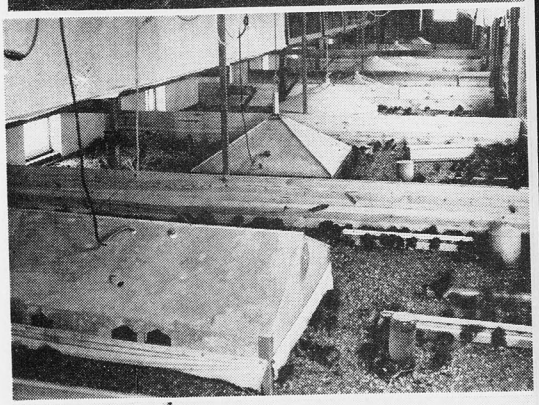
Section

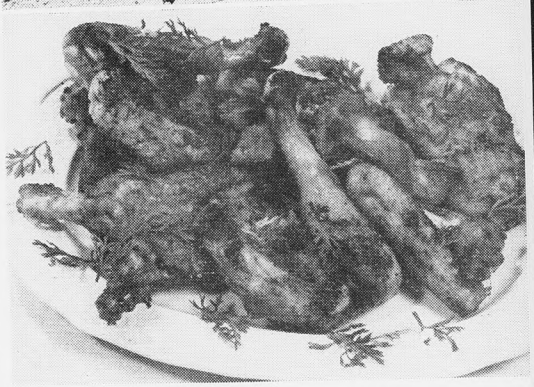
including a reasonable variety of feedstuffs in the ration, including a minimum amount of animal protein concentrates and those ingredients which are rich in vitamins. Dried whey, dried distillers' solubles, dried brewers' yeast and fermentation solubles are examples of feedstuffs that contain at least one of the unidentified factors required for rapid growth. Fish meal, fish solubles, meat scraps, dried skim milk, dried buttermilk, and liver meal are examples of animal protein concentrates that are known to contain an unidentified factor which is also required for growth and normal hatchability.

In addition to providing a diet which provides all the essential nutrients, the fiber content of broiler rations is important. Diets high in fiber are less readily digestible, hence decrease the feed efficiency. High fiber rations also have a greater bulk. If the feed is too bulky, it may limit the amount of food that is eaten and result in slower growth due to an inadequate intake of available energy. Although insoluble grit may aid in digestibility of high fiber feeds, it is recommended that the fiber content of a broiler ration should not exceed 5 or 6 per cent.

It should be remembered that good feed alone is not enough to insure good results. Good management, proper breeding and disease prevention and control are also very important factors that must be considered in profitable broiler raising. Frequently many difficulties which are attributed to a poor ration may be due to other causes.

G. F. COMBS
Poultry Department
University of Maryland





MARYLAND FRIED CHICKEN
IS WORLD FAMOUS

14 Days Earlier Egg Profits

Low Cost Coccidiosis Control

Start Your Chicks With

DR. SALSBURY'S

Ren-O-Sal

Drinking Water Medicine

Helps Chicks Grow Faster . . .

Lay Earlier, Results Are Test-Proved

In small doses, the active ingredient (Salarson) helps chicks lay up to two weeks earlier . . . when prices are highest. Easy to use in drinking water.

Low-Cost Coccidiosis Control — In larger doses Ren-O-Sal prevents spread of cecal coccidiosis. Prevents needless loss. Generally costs less than 1 cent per bird. Buy Ren-O-Sal, today. See your hatchery, drug or feed store, now.

DR. SALSBURY'S LABORATORIES ● Charles City, Iowa

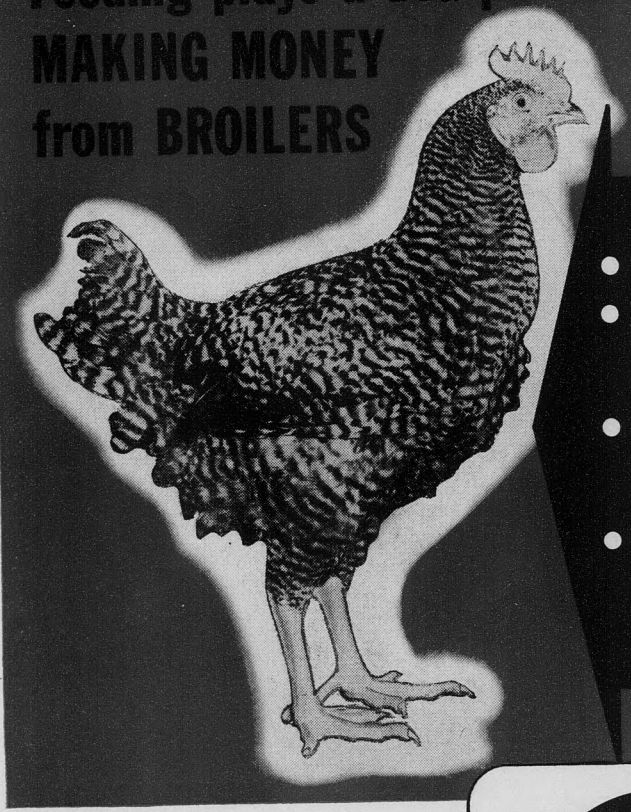
other helpful Dr. Salsbury products

- **Dr. Salsbury's SULQUIN**
  Contains SULFAQUINOXALINE. Checks immediate mortality from Acute Fowl Cholera, prevents and controls Coccidiosis (all forms).
- **Dr. Salsbury's WORMIX**
  Flock treatment for large roundworms and cecal worms. Easily, quickly used.
- **Dr. Salsbury's CLORO-CAPS**
  Individual treatment for TAPEWORMS (Genus Raillientina), large roundworms and cecal worms. Only wormer to remove these tapeworms.
- **Dr. Salsbury's ROTA-CAPS**
  Individual treatment. Large roundworms and intestinal capillaria worms.

When you need poultry medicines, ask for

Dr. SALSBURY'S

Feeding plays a BIG part in MAKING MONEY from BROILERS



- 3 lbs. in 9 weeks
- 1 lb. of weight for 2.85 lbs. of MA-CO
- Profits of $400 per 1000 . . . and higher
- Field proven facts and we have the records

● It's as simple as this: The *higher* the nutritional efficiency in a given quantity of feed, the *lower* the total feed intake and the *faster* the development to market weights. Thanks to B-B research, MA-CO formula Broiler Ration has made the above outstanding results possible. Plenty of growers are sending us attested records confirming their good judgment in changing to B-B MA-CO.

B-B MA-CO HIGH ENERGY LOW FIBER BROILER RATION

For the B-B MA-CO Complete Poultry Feeding Program write to

MARITIME MILLING CO., INC., Buffalo 2, N. Y.

for

BETTER BR

try

PILLSBU

4 POINT XXXX

Feeding Pr

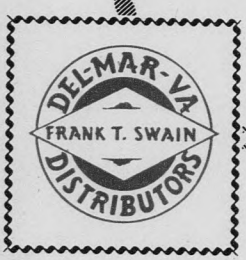
BROILER STARTER

BROILER MASH

Del-Mar-Va Distr

Frank T. Swain

DOVER, DELAW



for

BROILERS

try

BURY'S

4 POINT XXXX

g Program

POULTRY APPETIZER

BROILER FINISHER

Distributors, Inc.

rank T. Swain

R, DELAWARE

DEL-MAR-VA FRANK T. SWAIN DISTRIBUTORS

. . . For more than 50 years the Standard of Quality for feeding all kinds of POULTRY.

FOR SALE AT THE STORE
with the
CHECKERBOARD SIGN

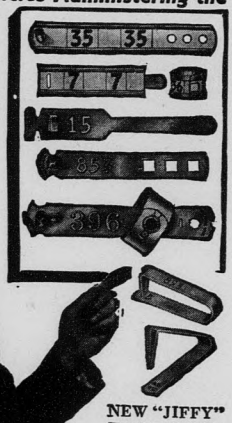
POULTRY BANDS

BUY DIRECT FROM FACTORY

You need National Leg and Wing Bands. Their uniform high quality provides more Permanent Identification... their low cost assures Real Economy. Selection includes over fifty popular, time-proven styles.

Official State Agencies Administering the "National Plan"

State Institutions, Organizations and Large Breeders, everywhere, protect their important records with National Bands. Let us quote you on your requirements.



Send for Free Catalog Today

NEW "JIFFY" WING BAND

NATIONAL BAND & TAG CO.,
NEWPORT, KENTUCKY

for extra values at no extra cost—

CURBAY B-G
(dried molasses fermentation solubles)

A low-cost alcohol fermentation product. Contains vitamins of the B-G complex *plus* riboflavin, pantothenic acid, biotin, nicotinic acid, vitamin B_6, and choline.

This is the fermentation solubles ingredient which is used in the Connecticut Broiler Ration which is now enjoying wide success.

SPECIAL LIQUID CURBAY
(condensed molasses distillers' solubles)

This concentrate, derived from yeast-fermentation of blackstrap molasses, does an outstanding job in hog and dairy rations. Contains all vitamins and minerals normally found in cane molasses.

U.S.I. Brand
RIBOFLAVIN MIXTURE No. 1
(one gram per ounce)

This concentrate contains one gram of active riboflavin per ounce of material.

And a new feedstuff ingredient—**METHIONINE**—one of the *essential* amino acids! Write today on your letterhead for the story of "Proteins and Amino Acids in Animal Nutrition"—an exclusive U.S.I. publication.

For further information, write to Special Products Sales, Department M, U. S. INDUSTRIAL CHEMICALS, INC., 60 East 42nd St., New York 17, N. Y.

U. S. I INDUSTRIAL CHEMICALS, INC.

SEASONAL BROILER CHICK DEMAND ON THE DEL-MAR-VA PENINSULA

Comes spring and late fall and broiler producers fill their houses with chicks. The low point in broiler production occurs during the summer, when prices are usually the most unfavorable and when farm crops are demanding the most attention. Prices of feed and chicks are the highest during the summer months, and cause producers to cut down on their placements.

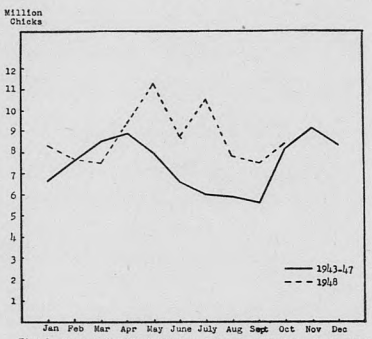


Fig: 1 Average Monthly Hatchings of Chicks in Del-Mar-Va Hatcheries.

Source: U. S. Crop Reporting Service.

The producer's decision to fill his broiler houses is partially influenced by the current price of broilers. Broiler prices are often misleading when used as a barometer in deciding when to fill the broiler house. Frequently, the current price turns out to be a poor indication of the price received fourteen weeks hence, when the birds are sold.

Another factor influencing producer's decision is that of feed and chick prices. If the supply of feed is likely to be plentiful and feed prices are relatively low, producers tend to feel secure in starting another flock of broilers.

During the summer months when competing enterprises require a large amount of attention the amount of labor available for broiler production is limited. Under these circumstances the grower will be inclined to stay out of broiler production.

Local hatcherymen, as well as some growers, have done much to cushion the effect of the seasonal fluctations in the demand for chicks. The hatcherymen have made their business more secure by providing a certain amount of production capacity to grow surplus chicks. In addition, a few hatcherymen have adopted the use of the sealed order, whereby the grower is obligated by law to take the chicks which he ordered.

In addition to seasonal fluctuations which follow the same general pattern from year to year, they are short time erratic ups and downs which are hard to account for. These erratic fluctuations frequently are severe enough to be felt by all segments of the broiler industry, and causes the greatest amount of distress.

The seasonal pattern of chick demand in 1948 has been less pronounced than during the recent war years. The unusual stability of broiler prices experienced may have been a factor. With feed prices at a relatively low level, production of broilers remained profitable throughout the year. (H. D. SMITH, Dept. Agriculture Economics, University of Maryland.)

HASTINGS HATCHERY

BROILER CHICKS

"The Eastern Shore's Best Graded Chicks"

WHETHER YOU WANT 50 OR 50,000
IT PAYS TO BUY HASTINGS CHICKS

Maryland U.S. Approved Pullorum Clean Hatcheries
Total Capacity 2,600,000 Eggs

HASTINGS

Rogers, Arkansas — Gaineville, Georgia

PARSONSBURG, MARYLAND

PHONE 1465

A RUSSELL DEALER FOR 24 YEARS SAYS

"I have been buying Russell Products for 24 years now and still intend to as long as I am in business. I always know I can recommend the Russell Products without fear of being embarassed."

For 36 years poultry raisers have followed the Russel Plan of poultry sanitation and disease control. They find it pays them in extra profits in more eggs and faster maturing broilers. Each year finds Russell Dealers making more profits because of the increased demand for Russell Products.

A Section of our Modern Scientific Laboratories where Russell Vaccines, Bacterins and Antigens are Manufactured.

Write for free Booket and Prices

I. D. RUSSELL LABORATORIES

DEPT. 41 **KANSAS CITY, MISSOURI**

NEW GROWTH AND HATCHABILITY FACTOR IN ANIMAL PRODUCTS

It has been known for many years that rations containing no animal products could not be relied upon to give maximum growth and hatchability in chickens. Nevertheless, the reason for the beneficial effects obtained from the addition of these products has remained obscure until recently.

Part of the reason for the value of certain animal products has been attributed to their mineral content, particularly calcium and phosphorus, and to the "quality" or "completeness" of the protein they furnish. Some of the presently recognized vitamins, riboflavin, for instance, occur in animal products and may also account for part of their feeding value. A ration containing "complete" protein and adequate in all other recognized essential nutrients does not, however, support optimum growth in chicks up to 8 weeks of age or good hatchability unless a small quantity of an animal protein supplement is included.

Experimental work conducted at the U.S.D.A. and at several of the leading agricultural colleges has shown that animal protein materials, such as fish meal, meat scrap, liver meal, milk products, and fish solubles, contain an unidentified factor, or factors, required for rapid growth and normal hatchability. Recently, Merck and Company have announced the crystallization of a new factor, Vitamin B_{12} which appears to be identical to one of the unidentified factors in animal products.

According to results obtained at Cornell University, the addition of 2 to 3 percent of fish meal, 3 percent of meat scrap, or 4 percent dried skim milk to a soybean meal ration was adequate to support normal growth in chicks up to 8 weeks of age. Other workers have found that supplementation is not required for normal development of chicks after 8 weeks of age or for the maintenance or normal egg production; however, hens should receive amounts of animal protein supplement similar to those recommended for young chicks when the eggs are to be used for hatching purposes.

For this reason, it is considered desirable to include a minimum of 5 percent of animal protein supplements in all chick starter or breeder rations. This will provide adequate amounts of the unidentified factor required for rapid growth and hatchability. (G. F. Combs, Poultry Dept., U. of Md., College Park.)

According to experiments by Grumbles, Delaplaine, and Higgins (R. I. Exp. Sta.), the use of sulfaquinoxaline at the rate of 0.05% (1 lb. per ton) in the mash 2 days out of each 5, is an effective means of preventing excessive losses of chickens from cecal and intestinal coccidiosis.

MARYLAND TURKEY FLOCKS
AND GROWER'S HOME

Norman's

Broad Breasted

BRONZE POULTS

U. S. Pullorum Clean

U. S. Approved

Hatched in our own exclusive Turkey Hatchery from our own Exclusive Turkey Breeders. We have no suppliers or cooperators. Every egg is a Norman Broad Breast egg. Every poult is a Norman Broad Breast poult. No substitutes. No compromises.

A trial will convince you it pays to raise Norman poults.

100% live delivery guaranteed by Air, Rail express, or Parcel Post Prepaid.

Booking Orders for 1949
Write for catalog
It's FREE

Visitors welcome

NORMAN

TURKEY FARM

Charlotte Hall, Maryland

Turkey Section

SECURING FERTILE TURKEY EGGS

No turkey breeder needs to be reminded of the importance of securing a high degree of fertility in a turkey flock, yet each year thousands of infertile eggs are set. Low fertility is often a baffling problem, and before the breeder can detect and correct the faulty conditions considerable loss is apt to have occurred.

Good fertility results only when stock bred for high fertility is maintained under a good system of management. Since the factors controlling fertility are inherited, every breeder should certainly consider this point when selecting his breeding stock. The best basis for selection in breeding for high fertility is probably the "precentage hatch" of all eggs set as few breeders can afford to take the time to accurately determine the fertility of unhatched eggs.

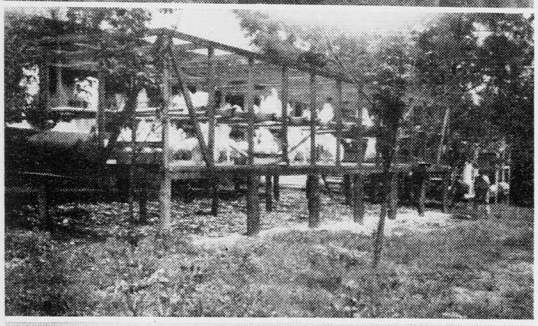
In order to insure good fertility in the early hatches, the matings should be made up well in advance of the time when the hens start to lay. If lights are to be used, the toms should be lighted about three weeks before the hens are lighted.

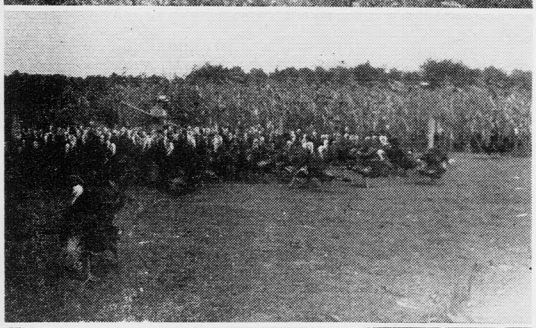
Some breeders follow the practice of having two groups of males for each flock of hens and alternating the groups of toms each week using one tom to twenty hens. The medium and small breeds, however, do about as well when mated at the rate of 1 to 16 with no change of males.

Good fertility can be secured with flock matings involving 500 hens or more provided there is a good sized range with plenty of feeders and waterers well distributed. Removing some of the very quarrelsome males is often beneficial. Only well-proportioned upstanding toms should be used and the wings should not be clipped as they are needed for balance. The highest fertility is usually secured from well matured toms that are 8 or 9 months old at the beginning of the breeding season.

In spite of the best of management, there is usually a seasonal decline in fertility starting in early summer. This handicap will probably be overcome only by breeding strains that do not show the characteristic.

Proper attention to the above details should result in improved fertility and the breeder will be well paid for his time. At a price of 40 cents per hatching egg, a difference between a percentage hatch 70 and 80 will mean a difference of $6.80 in the cost to produce 100 poults. (C. S. Shaffner, Poultry Dept., U. of Md.)





MARYLAND TURKEY FLOCKS
AND GROWER'S HOME

Norman's

Broad Breasted

BRONZE POULTS

U. S. Pullorum Clean

U. S. Approved

Hatched in our own exclusive Turkey Hatchery from our own Exclusive Turkey Breeders. We have no suppliers or cooperators. Every egg is a Norman Broad Breast egg. Every poult is a Norman Broad Breast poult. No substitutes. No compromises.

A trial will convince you it pays to raise Norman poults.

100% live delivery guaranteed by Air, Rail express, or Parcel Post Prepaid.

Booking Orders for 1949
Write for catalog
It's FREE

Visitors welcome

NORMAN

TURKEY FARM

Charlotte Hall, Maryland

Turkey Section

SECURING FERTILE TURKEY EGGS

No turkey breeder needs to be reminded of the importance of securing a high degree of fertility in a turkey flock, yet each year thousands of infertile eggs are set. Low fertility is often a baffling problem, and before the breeder can detect and correct the faulty conditions considerable loss is apt to have occurred.

Good fertility results only when stock bred for high fertility is maintained under a good system of management. Since the factors controlling fertility are inherited, every breeder should certainly consider this point when selecting his breeding stock. The best basis for selection in breeding for high fertility is probably the "precentage hatch" of all eggs set as few breeders can afford to take the time to accurately determine the fertility of unhatched eggs.

In order to insure good fertility in the early hatches, the matings should be made up well in advance of the time when the hens start to lay. If lights are to be used, the toms should be lighted about three weeks before the hens are lighted.

Some breeders follow the practice of having two groups of males for each flock of hens and alternating the groups of toms each week using one tom to twenty hens. The medium and small breeds, however, do about as well when mated at the rate of 1 to 16 with no change of males.

Good fertility can be secured with flock matings involving 500 hens or more provided there is a good sized range with plenty of feeders and waterers well distributed. Removing some of the very quarrelsome males is often beneficial. Only well-proportioned upstanding toms should be used and the wings should not be clipped as they are needed for balance. The highest fertility is usually secured from well matured toms that are 8 or 9 months old at the beginning of the breeding season.

In spite of the best of management, there is usually a seasonal decline in fertility starting in early summer. This handicap will probably be overcome only by breeding strains that do not show the characteristic.

Proper attention to the above details should result in improved fertility and the breeder will be well paid for his time. At a price of 40 cents per hatching egg, a difference between a percentage hatch 70 and 80 will mean a difference of $6.80 in the cost to produce 100 poults. (C. S. Shaffner, Poultry Dept., U. of Md.)

HAB NAB FARM TURKEYS

Pullorum Clean

BOURBON RED and R.O.P. BRONZE
BREEDERS and POULTS

CALL COCKEYSVILLE 22-F-13

MRS. ALICE WOLFE SATTLER

MONKTON, MARYLAND

20 Miles out of Balto., Route 111, to Turkey Sign

FIRST PRIZE DRESSED TURKEY AT WORLD'S POULTRY CONGRESS

Quality Results

at Low Cost!

WRITE FOR LITERATURE

HALES & HUNTER CO.

141 W. Jackson Blvd. CHICAGO 4, ILL.

MILLS AT CHICAGO, ILL. — WILMINGTON, DEL.

WARREN D. JOHNSON

One Of America's Best Strains Of

WHITE HOLLANDS

Pa.-U.S. PULLORUM CLEAN

EGGS JANUARY TO JULY **POULTS**

Address — Nottingham, Pa.

AN OUTLINE FOR SELECTING BREEDING TURKEYS

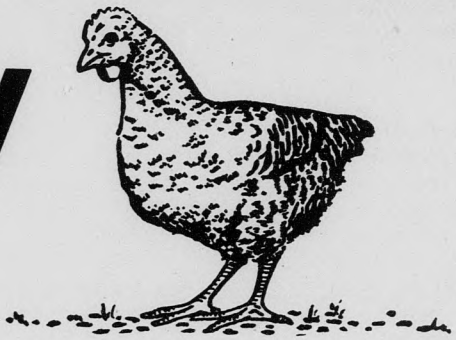
Select birds individually by handling and by observation of the bird standing or walking.

1. HEAD — A. Bright, round, outstanding eyes of proper variety color. Reject if off-colored, elongated, dull, sunken, injured, blind, or missing.
   B. Short, curved beak. Reject for ostrich beak, cross beak, and elongated beak.
   C. Rugged but refined appearance, free from excess flesh. Reject for coarseness or weak appearance.
   D. Good depth and breadth, not elongated. Reject for crow head.
2. BACK — A. Wide and flat including part over ribs (heart girth).
   Reject for roach (arched) back, crooked back, narrow heart girth, or torn skin.
3. BREAST — A. Wide but not excessively so. Reject if too narrow or too wide and flat.
   B. Parallel to back. (Place one hand on back, the other on breastbone). Reject if rear end of keel appears pushed in or dropped down away from the parellel position.
   C. Smoothly fleshed, width carried well back to rear of keel but not so much as to interfere with locomotion. Reject for heart-shaped breast (very wide in front, very narrow at rear).
   D. Breastbone (keel), straight, moderately long, free from knobbiness. Eliminate crooked, noticeably curved, too short, decidely rocker-shaped, decidedly dented, or possessing a knob which is the result of failure of flesh to surround the front point of the keel. Keel bone should be about the same length as the shank.
   E. Check crop region and reject for signs of pendulous crop.
4. LEGS AND FEET — A. Drumsticks plump, well-meated, and of a size sufficient to balance the rest of the body. Reject if undersized or straight-sided.
   B. Shanks of moderate length, strong, sturdy. Reject for legginess or abnormally short shanks.
   C. Reject for off-color, crooked toes, twisted shank, or any tendency toward bowlegs, knock-knees, slipped tendons, swollen hocks, or malformed hocks. One or two slightly crooked toes permitted in females but not in males.
5. WINGS AND TAIL — Reject for split wing, slipped wing, twisted or off-colored wing and tail feathers. Clipped wing(s) permitted on females but not on males.
6. BALANCE — Depends primarily upon leg placement; birds poorly balanced have legs placed too far back. Balance is indicated by: Keel-leg relationship when bird is suspended by the legs, the body vertical and relaxed. Well-balanced birds show no decided gap between drumsticks and rear end of keel, the profile appearing smooth. Keel should extend well back between the legs.
7. CARRIAGE AND ACTION — A. Carriage ,the bird standing or walking but not strutting. Birds with good balance stand high at the shoulders, the back sloping from front to rear at a 35-40 degree angle. Reject for front-heaviness.
   B. Action: Gait free, active, and easy. Reject for waddling, limping, paddling (swinging feet outwards).

S. J. MARSDEN,
U. S. Agr. Res. Center,
Beltsville, Md.

GROW

with



PROVICO
FEEDS & CONCENTRATES

MORE MEAT **FROM EVERY BAG**

FINE QUALITY BIRDS THAT

BRING TOP MARKET PRICES

SEE YOUR LOCAL
PROVICO DEALER
FOR POULTRY AND
ALL LIVESTOCK FEEDS

PROVICO FEEDS

CINCINNATI 32,0.

TURKEY GOBBLES

Peat moss is superior to shavings or sawdust for starting poults as they are not as apt to eat it the first few days.

Reducing broodiness in turkeys, and thereby increasing egg yield is being accomplished through using only males from hens showing nonbroodiness throughout the laying season. This is vital to developing a high laying strain since broodiness is an inherited trait.

To improve meat type, select long-keeled birds carrying flesh well back between legs, and with short necks. Short necks and long keels do not always go together. A broad front alone does not make a good carcass. Avoid heart shaped bodies.

There's no argument about the small or large type turkey. It all depends upon your market demand. If you don't like the small type, don't raise it. If you can get 8 or 10 cents a pound premium for small over the large type, you can probably make as much or more raising the small type. At 5 cents premium or less, there's more money in the large types. Your market and your preference is the deciding points.

According to L. E. Cline, of Norbest Turkey Growers Association, monthly feed consumption per bird for Broad Breasted Bronze jumps from 16.1 lbs. feed per bird for the 6th month of growth to 21.2 lbs. per bird for the 7th month and to 25.5 lbs. per bird for the 8th month. Keeping anything but breeders past the 7th month is expensive business.

Some turkey producers are brooding their early birds in confinement to about 12 weeks, then moving them to range. A later brood is raised to maturity in the same brooders. The early birds are marketed or saved for breeders before bad weather, while the later lot and the breeders are kept off muddy ground in the winter months until the building is again needed for brooding.

Moving a small lot of poults to range shelters and teaching them to roost the first night solves the roosting problem when the balance are moved out the next evening. The first group teaches the whole lot.

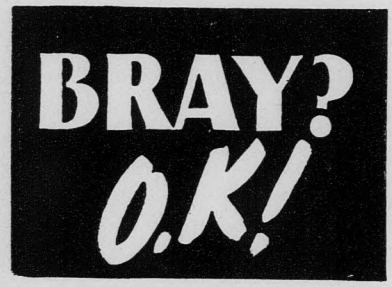
Ten to fourteen week old toms that "shoot the red" early and show early sexual maturity are usually smaller than the later maturing birds at maturity. At 10-14 weeks is the time to make the first tentative selection of breeding toms by leg-banding or toe marking for later observation.

Sulfa drugs are not effective in treating blackhead, hexamitiasis, and sinusitis on the basis of present knowledge.

Turkeys will harvest standing mature corn as well as forage. One thousand turkeys can harvest 7-8 acres of corn in about six weeks.

Delaware Station reports that Beltsville Small Whites and New Jersey Buffs required 1/3 lb. more of feed to produce a pound of turkey to 27 weeks of age than Broad Breasted Bronze.

WE ARE JUST AS CLOSE AS YOUR TELEPHONE
FOR REAL ECONOMY AND SERVICE CALL
THE NUTTLE
ST. MICHAELS LUMBER CO.
"BUILDING MATERIALS"
ST. MICHAELS, MD. ST. MICHAELS 2
WE ARE JUST AS CLOSE AS YOUR TELEPHONE
FOR REAL ECONOMY AND SERVICE CALL
THE NUTTLE
LUMBER & COAL CO.
"BUILDING MATERIALS"
Denton 25
DENTON, MD. Chestertown 62500
WE ARE JUST AS CLOSE AS YOUR TELEPHONE
FOR REAL ECONOMY AND SERVICE CALL
THE NUTTLE
EASTON LUMBER CO.
"BUILDING MATERIALS"
EASTON, MD. EASTON 280
WE ARE JUST AS CLOSE AS YOUR TELEPHONE
FOR REAL ECONOMY AND SERVICE CALL
THE NUTTLE
CAMBRIDGE LUMBER CO.
"BUILDING MATERIALS"
CAMBRIDGE, MD. CAMBRIDGE 1118



Wherever people have bought Bray hatching eggs or raised Bray Chicks, you'll find them reporting, "Bray? O.K." That's because they're N.Y.-U.S. Approved, Pullorum Clean, and backed by over 25 years of careful, skilful selection. You would like them, too!

Hatching Eggs — Chicks

Cockerels in Season

N.H. — B.R.X. N.H.

FRED W. BRAY

116 MYRTLE AVE.

BUFFALO 4, N.Y.

Turkey eggs held 4 to 8 days hatched better than those set the same day as laid at the California Station. Also eggs held at 29 to 30° F. for as long as 48 hours hatched as well as those held at 50 to 55° F. About 4 hours on an open tray, and 11-30 hours in an unlined case are required for eggs to reach temperature of surrounding still air.

Certain strains of laryngotracheitis vaccine are now available which give effective results through feather follicle inoculations. However, some strains of the vaccine produce desired reaction only by vent inoculations. The method of application recommended by the manufacturing laboratory should be followed in all cases.

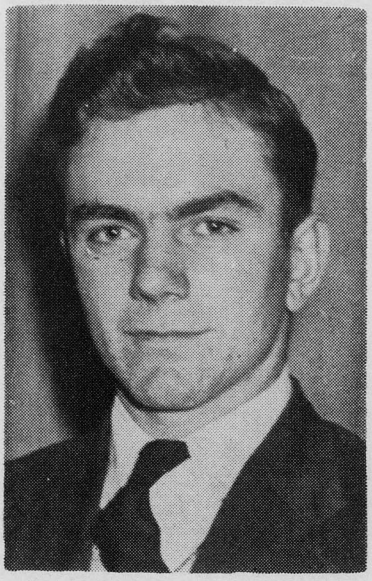
Lining the litter in the brooder house apparently has no effect upon sporulation of the oocysts of coccidiosis (E. Tenglla) according to recent experiments.

Junior Section . . .

MY 4-H POULTRY ACHIEVEMENTS

Turner Wiest, Sudlersville, Maryland

In February, 1940, I joined the 4-H club at Sudlersville. I bought 25 chicks when my parents got theirs that year. I fed and watered all the chicks in payment for the feed and fuel for my 25.



In 1941, 1 got 50 chicks and made our feeders at home. I kept 24 pullets and proceeds from fryers sold was used for feeders and fountains. The egg income supplied me with spending money through March, 1944.

1944 saw everyone urged to produce Food for Freedom, so I bought 300 cockerel chicks for broilers. I was given use of the brooder house, and purchased feed on credit. Due to good sanitation. I had little loss in my brood and cleared $132.00 from the broilers including 36 sold for breeders. This made me think more about "Making the Best Better."

In the Spring of 1945, we bought our farm and it was agreed I would manage the poultry an a 40-60 basis. We started 300 cross broilers, but at 12 weeks of age decided to keep the pullets as layers. I won 1st at the County Fair on my poultry exhibit that year and then built a 20 x 20 ft. laying house which I mostly built myself. In April, 1947, I sold all the pullets for meat.

In 1946 we built a new 20x30 ft. house and an 8 ft. feed room. In September we put in 1,000 cross broiler chicks to keep our houses busy. Broiler prices dropped but we made enough to pay for the new house.

In January, 1947, we put in another 1,000 chicks and I retailed broilers to customers. We insulated the feed room and used it as a starting room for 300 New Hampshire pullet chicks in March. After transferring them to the broiler house, we put in another 300 pullet chicks in April. Both lots were moved to range shelters in the spring, and I provided barrels with automatic floats for water. That fall, feed prices went up and I culled down to 500 pullets and in January we sold out the flock.

During the previous summer, we built another 60 ft. on our first laying house, making it 88 ft., and a two-story feed house with bins and chutes to the first floor with pens for 200 birds on each side. This house was idle from January to September, 1948, due to high feed prices.

In the Spring of 1948, we put in 1,000 unsexed New Hampshires. At 18 weeks the pullets were pullorum tested and I am now selling eggs to a nearby hatchery at a premium for hatchability.

I also sold 1,000 broilers in late September which were started in July.

We have put a lot of work into developing our project, and now have 375 pullets housed in our laying houses. We also have a broiler house, a 12x16 brooder house, 3 range shelters and equipment for raising 500 pullets. The houses are all equipped with running water and electricity.

Poultry production will be an important enterprise on my farm in the years to come.

OUR POLICY

FOR THE FUTURE

TO help improve tomorrow's butter, poultry, and egg market, A&P is concentrating on a progressive program which includes:

1. Co-operation with producers and processors to develop high-quality products. One typical project is the "Chicken of Tomorrow" program, to breed finer, meatier chickens . . . and thus broaden demand, and lower costs of production.
2. Large-scale advertising in newspapers, magazines, radio . . . to encourage wider use of butter, poultry, and eggs, attention-getting displays and posters, in more than five thousand A&P retail stores, push sales at point of purchase.
3. Quality assurance to millions of A&P customers . . . through Freshness Control and time-saving transportation.

To producers and processors who sell to A&P, we will continue to offer a vast, year-round market . . . fair prices with no credit risks . . . and constant help in bettering the industry.

You'll want to keep in touch with A&P!

National Egg & Poultry Department

The Great Atlantic and Pacific Tea Company

Graybar Building — New York 17, N.Y.

MY F.F.A. POULTRY PROJECT

N. Leo Mullendore, Boonsboro F.F.A.

When I entered the Boonsboro High School about four years ago I chose the vocational agriculture course. One of the projects which resulted from this was a flock of 300 Hamp-Rock Cross cockerel chicks. I started these chicks in my father's building with the use of a coal brooder which I purchased for this purpose. In order to give the chicks more room, an outpen was constructed at school and transported to my home. At the age of eleven weeks I started to market my chickens.

In June, 1946, I purchased 97 bronze turkey poults. To prepare for them I constructed an outpen for another chicken house which my father said I could use, and two electric brooders. This project continued until Thanksgiving when I sold about half of the flock. The remainder was sold during the Christmas holidays

On December 7, 1946, I purchased 150 four-week-old cockerels. These were sold during February. In the spring, with the help of my father, I built a 12x12 chicken house with a 12x12 outpen. The lumber for this was obtained by sawing down trees, cutting them into suitable logs, and taking them to the mill to be sawed into lumber. About the middle of February I purchased 500 White Rock and White Wyandotte cross baby chicks.

After this project was completed I purchased 50 White-Holland and 54 Narragansett turkeys. This is the year I made a comparison between these two breeds. I decided to continue with the White Holland turkeys because they seemed to be finished and ready for market before the Narragansett and, too, I made more profit on the White Holland turkey.

Between the first of 1948 and the present time I have completed a project of one thousand New Hampshire Red chicks and have very near to completion a project of 100 White Holland turkeys.

I have raised a total of 1950 chickens and a total of 401 turkeys. My total expense for all poultry projects that have been completed is—

	$2233.54
Gross Income	4223.14
Net Profit	$1989.60

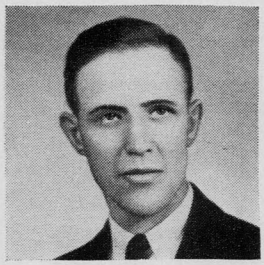
Feeders, waterers and other necessary equipment were either bought or constructed at home or school as they were needed. Some of the poultry was sold locally but the greater part was sold and taken to the employees of the United States Chamber of Commerce of Washington, D. C.

I am very grateful to my F.F.A. Chapter for doing the things they did to help make this project possible.

Earning while learning brings prosperity.

WHAT ARE THE CHANCES OF POULTRY RAISERS REACHING

200 Eggs Per Bird?



"Very good"—

says **ROBERT R. PARKS,**

breeder of pedigreed Barred Rocks at Altoona, Penn. Mr. Parks is a strong advocate of "family selection" in choosing breeding stock. As a result, over 70 per cent of his R.O.P. candidates have qualified with an average of 256.8 eggs per bird.

"EVERY poultry raiser can reach a production goal of 200 eggs per bird," says Mr. Parks, "if he keeps them alive and healthy, feeds and manages well, and buys well-bred chicks."

"To get those extra 30, 40, or 50 eggs per bird," he says, "the layers must be selected from good breeding stock. Chicks from such stock are available to all poultry raisers through hatcheries who buy their foundation stock from good breeding farms."

In his own Barred Rock flock, Mr. Parks is careful to start only disease-free chicks. He keeps them healthy by following "common sense" sanitation practices . . . avoids overcrowding . . . and raises only one age of chicks together. Young stock is always raised as far as possible from the older birds.

"There are many methods of feeding, all of which seem to work well," Mr. Parks says, "but the important thing is to choose a dependable source of feed made by a manufacturer who uses high-quality ingredients."

"Delsterol" is the Economical, Scientific Source of Vitamin D

The best guarantee you can give poultry raisers that their flock are assured unexcelled protection against Vitamin D deficiency is to fortify feeds with "Delsterol" "D"-Activated Animal Sterol.

Du Pont "Delsterol" is exceptionally stable and consistently uniform in potency. As a dry ingredient, it mixes easily and supplies Vitamin D in a form that is readily assimilated by the birds.

For details, write E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Dept., Wilmington 98, Del.

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

DELSTEROL® VITAMIN D_3

Irradiated 7-dehydrocholesterol—"D"-ACTIVATED ANIMAL STEROL

ORIGINATED BY DU PONT

4-H POULTRY CLUB WORK IN MARYLAND — 1948

There was a total of 1481 4-H Club boys and girls completed their 4-H Club poultry projects in 1947. It is estimated there is a slight increase in enrollment during 1948.

The 4-H Club poultry projects vary in size and type in the different sections of Maryland, and the recommended poultry projects are: broiler production, laying flock, breeding flock and some club members may engage in duck or turkey production if the home situation and market opportunities warrant.

The State-wide 4-H poultry activities during 1948 were:

The miniature booth exhibits held in conjunction with the Maryland Poultry Products Show in Baltimore in January were placed as follows: Blue Group — Smithsburg 4-H Club (Washington County), Shady Grove 4-H Club (Montgomery County), and St. Marys County; Red Group — Baltimore County, Harford County, and Wicomico County.

The placings in the team demonstrations at the Maryland State Fair at Timonium in September were: 1st, Howard County — "Candling Eggs" — James Welling, Sykesville and Raymond Zeltman, Ellicott City; 2nd, Wicomico County — "Automatic Watering of Poultry" — Wm. Burton, Quantico, Wm. Kirwan, Tyaskin; 3rd, Montgomery County — "Culling the Laying Flock" — Delmas Wood, Jr., Sandy Spring, and Charles Wood, Sandy Spring; 4th, Washington County — "Good Poultry Management" — Robt. Kretsinger, Smithsburg, and Charles Newcomer, Hagerstown. Harold Mullinix, Jr., Route No. 5, Mt. Airy, Montgomery County, and Wm. B. Scott, Marriottsville, Howard County, placed first and second in the individual demonstrations.

James Welling and Raymond Zeltman, members of the first placed demonstration team, gave their demonstration at the Interstate Contest held during the Neppco Exposition at Harrisburg, Pa. They placed in the red ribbon division.

The annual State 4-H poultry judging contest was held at the University of Maryland, October 2, 1948. The teams placed in the order listed: Montgomery, Frederick, Wicomico, Washington, Cecil, Allegany, Howard and Carroll Counties. The high scoring individuals in the contest were: first, Frank Thompson, Poolesville, Montgomery County; second, Raymond Cook, Route No. 4, Frederick County; third, Allen Biggs, Rising Sun, Cecil County; and fourth Arthur Rhoderick, Union Bridge, Frederick County. These club members will represent Maryland in an interstate judging contest at the Boston Poultry Show the latter part of January 1949. (MYLO S. DOWNEY, State Boys Club Agent.)

TEN YEARS OF PROGRESS

The Westminster Cooperative Poultry Products Auction, Inc. is celebrating its tenth anniversary in 1948.

The management of the Auction and their many friends have just cause to be proud of their accomplishments over the years. With the untiring efforts and cooperation of all interested people a great Poultry Products marketing institution has been built to serve all of western Maryland and the adjoining counties of Pennsylvania.

Long ago producers began to realize that efficient production of agricultural products was not enough within itself. Marketing and distribution are also a part of successful farm operations and not until the two are combined can true progress be made.

The 10th Annual Meeting of the Cooperative was held on November 19th with around seven hundred enthusiastic producers present. A constructive program was outlined for the industry which will mean real progress in marketing and production in the years ahead.

The volume of business during the current year was just slightly short of a million dollars. A steady growth of the business has been noted through the years of operation and with a new, large building and facilities it is expected that during 1949 the business will run well over the million dollar mark.

The management of this institution have one though in mind and that is, service to all producers of poultry and poultry products and they sincerely and earnestly solicit the patronage and good will of the entire industry. (William J. Flohr, President.)

Westminster Cooperative Poultry Products Auction, Incorporated

GEORGE C. BROWN, Manager

AUCTIONS

EGGS MON., THURS. 1:30

POULTRY TUES. 11.30

A Cooperative Poultry Products Marketing Service

Owned and Operated by Poultrymen for Poultrymen

"Quality Eggs Our Speciality"

Carroll Co. Westminster, Md. Phone 571

Economics and Marketing

FEED SURVEY COMMITTEE ESTIMATES POULTRY PRODUCTION FOR 1949

Sponsored by the Advisory Committee of the American Feed Manufacturers Association, the College Feed Survey Committee, consisting of 25 representatives of the Dairy, Livestock, and Poultry industries of the Agricultural Colleges recently met in Chicago to forecast production in these fields and to estimate the grain and proteins to be used for the year ending October 1, 1949.

Forecasts By Poultry Committee

Laying Birds. Layers on hand in the United States, January 1, 1949, is forecast at 415 million or 3 percent less than January 1, 1948. Favorable egg-feed rates is serving to reduce culling to a lower than normal rate, and somewhat more than the usual number of old hens will be carried over for another season's lay.

Chickens Raised. Farm chickens to be raised in 1949 was estimated at 740 million or an increase of 16 percent over 1948. The present favorable egg-feed ratio is expected to stimulate both farmers and commercial poultrymen to raise more chickens for layers than in 1948, though limited hatching egg supplies will tend to hold down the number raised. With a greater supply of hatching eggs than is now in prospect the increase might well reach 20 percent.

Commercial Broilers. The number of commercial broilers to be raised in 1949 is estimated to be 345 million, an increase of 6 percent over year ending October 1, 1948. Approximately 60 percent of the commercial broilers are usually raised in the first six months of the calendar year. With the short current meat supply situation, and a large increase in spring farrowed pigs in prospect for 1949, much heavier pork supplies in the fall of 1949, and heavier marketing of farm poultry in the summer of 1949 are expected to depress commercial broiler production after the first half of 1949. A shortage of suitable hatching eggs will be a limiting factor in expansion of broiler production during the first half of 1949, otherwise a greater increase than that estimated would be in prospect.

Turkey Production. Production for 1949 was forecast at 37 million head or about 15 percent over 1948 production. With lower feed costs and a favorable 1948 market, turkey producers are encouraged to save more hens for producing more hatching eggs in 1949 which were in very short supply in 1948. Turkey outlook for 1949 is favorable to producers.

Other Poultry. Ducks, geese, guineas, etc., are expected to change only slightly in 1949 over 1948, and these are a minor factor in the total poultry and meat supply situation.

Poultry Committee: H. J. Sloan—University of Minnesota—St. Paul, Minnesota. C. W. Upp—Louisiana State University—Baton Rouge, Louisiana. R. S. Dearstyne—North Carolina State College—Raleigh, North Carolina. C. W. Callenbach—Pennsylvania State College—State College, Pa. W. H. Rice—University of Maryland—College Park, Maryland.

SOUTHERN STATES EASTERN SHORE MARKETING COOP.

Southern States Eastern Shore Marketing Cooperative, Inc. was constructed in 1945 at the request of some 300 broiler growers on the Delmarva Peninsula.

This plant is rated as one of the most modern and up-to-date plants in the country. The plant at the present time is equipped to process 20,000,000 pounds of dressed poultry, per year.

The original capacity of the New York dressed department was 20,000 broilers per eight hour day, but has recently increased to 32,000.

The plant is also equipped with modern and up-to-date eviscerating facilities capable of processing half of the total production from the New York dressed department. The plant produces its total ice requirements, has holding storage for 150,000 pounds of New York dressed broilers, freezing tunnel, which is capable of freezing 40,000 pounds of eviscerated poultry during a 24 hour day, zero storage capable of storing up to 200,000 pounds of frozen poultry at zero temperature, feeding station capacity to hold and feed two days killing production, private railroad siding and supply storage.

Operating at full capacity, the plant employees 300 men and women located in and around the vicinity of Salisbury, Maryland. (Carl G. May, Mgr.)

BATTLES New Hampshires

MASS.-U.S. PULLORUM CLEAN AND APPROVED

Now available in two specialized types: Battles meat-type Hamps have excellent broiler and roaster quality plus good egg production. Battles Egg-Type Hamps inherit all the qualities necessary for top egg production. Get started with one of these specialized types———order Battles New Hampshires soon. New folder describes these profitable chicks.

BATTLES FARMS, Dept. M, 183 Battles St., Brockton 36, Mass.

According to the National Research Council, a 4 lb. hen requires 57 lbs. feed per year for maintenance, and a 6 lb. hen requires 73 lbs. Both require 14 lbs. feed for each 100 eggs of the same size which they lay. Thus smaller birds are more efficient producers of eggs, provided their eggs meet minimum size requirements. Does it pay to produce 28 oz. eggs over 25 oz. eggs?

Many new egg cleaning and washing machines have recently appeared on the market. However, we haven't yet found the best and most economical method of cleaning eggs, and most of the machines offered are yet too expensive for most poultrymen.

ECONOMIC SECURITY OF POULTRY INDUSTRY

The poultry industry, important as it is, represents only a small segment of the national economy. Naturally it will feel the impact of economic forces resulting from changes in general business activity. There are internal forces within the poultry industry, however, over which the poultrymen have some control. It is the management of these forces which will determine to a large degree, the economic stability of the industry.

Every person in business is entitled to normal profits. If profits are not normal there will be movement of capital from the less profitable to the more profitable enterprises, provided the mobility of capital is practicable.

The capital investment in the poultry business is relatively large with a relatively slow rate of turnover. Once the investment is made it cannot be readily shifted to some other business venture. Sometimes a poultryman may even be forced to operate for short periods of time without receiving any normal profit. In fact, he may have to dissipate some of the investment in order to remain in business. The limits of this type of activity are well defined by the size of investment and obviously represents an unsound and unstable type of business activity.

Therefore, the potential poultry producer should enter the business only after a thorough analysis of the economic forces with which he will be confronted and an unbiased appraisal of himself in regard to the personal qualifications of a successful poultryman.

Here may be some helpful hints. The investment in the poultry industry will average about $20 per bird for egg production. A normal profit for this operator would be about $1.00 per bird. The average number of eggs produced per layer is 127 eggs. Therefore, this operator must receive a market price of at least 10 cents per dozen over and above all out-of-pocket costs of producing that dozen of eggs. Naturally the higher the rate of lay the narrower the margin between cost and selling price and still receive a normal return. Thus, a full appraisal of the cost factors in relation to the anticipated price will determine the margin that might be expected.

Now suppose this producer has to borrow half of the original investment. How would that affect his margin requirements in order to liquidate the debt and still receive a normal profit? A debt of $10 per bird, to be paid off over a period of 10 years, would require an additional income of $1.25 per bird per year or 12.5 cents per dozen eggs, based on the same rate of egg production. It is easy to see that a producer who had to borrow part of the capital would need to have a margin more than twice as large as the producer whose investment is debt free.

If a new producer has to go into debt to the extent of as much as 50 percent, then it would probably be better for him to direct his energy and money into other activities. The adjustments, as a result of change in business activity downward, could prove very painful. The industry as a whole would also be better off without the expansion by this type of producer.

Then, there are potential producers who are looking for a place to invest their easily earned war and postwar boom profits. In many of these cases perhaps the operation would not have to earn or even expect a normal profit. Nevertheless, it does mean an expansion of production facilities. This additional production could easily affect the entire industry adversely in a period of adjustment. (P. R. Poffenberger and S. H. DeVault, Dept. of Agricultural Economics and Marketing, U. of Md.)

MARYLAND FANCY EGGS

It has been proposed that an additional grade of eggs be established to be known as Maryland Fancy. The standard of quality for this grade would be higher than the present standard of quality for Maryland Grade A. It would be somewhat like the Federal grade called Grade AA.

The standard of quality for Maryland Fancy eggs would be drawn up and submitted to those producers interested in packing eggs of this quality. It would be a voluntary grade, asked for by producers and established by the State Board of Agriculture. The State Board of Agriculture now has the authority to set up and promulgate standards and grades of any agricultural product if so requested by a number of producers.

This producer pack of eggs, Maryland Fancy, will be rigidly supervised. No one will be allowed to pack this grade of egg until first submitting an application to the State Board of Agriculture. Then the producer's premises will be inspected to ascertain if, the application is from a bonafide producer, capable of producing this quality of egg, and has the proper facilities. Upon receipt of this information from an official inspector and if meeting the requirements, a certificate will be issued giving this producer the right to pack and sell Maryland Fancy eggs. He will be issued a registry number which will appear printed on the top of the egg carton. Maryland Fancy eggs will be sold only in cartons.

A standard and uniform carton will be adopted by the producers who wish to pack this quality of egg and in this way Maryland consumers will be able to recognize this grade of eggs wherever she may be regardless of the packer. Cartons will be purchased cooperatively and the name and address of the producer, registry number, grade and size will appear on the top of the carton. Cartons will be sealed with a uniform seal and purchased in the same manner as the cartons. Both cartons and seals will be controlled by the State Board of Agriculture.

Certificates and registry numbers will be issued on an annual basis subject to revocation if found guilty of non-compliance with the rules and regulations or failing to meet the standard of quality.

Maryland Fancy grade is a producer's grade and may be taken advantage of by those Maryland producers who are quality-minded and only sell eggs of their own production directly to retailers or to customers. It gives to the Maryland producer the opportunity of cashing-in on top quality eggs if he so desires. If interested, further information may be obtained from the writer. (Russell C. Hames, Marketing Specialist, U. of Md.)

LADINO CLOVER PASTURES REDUCE POULTRY PRODUCTION COSTS

Ladino clover has the capacity to produce higher yields of pasture forage for a longer period of years than any other pasture plant adapted to Maryland, according to agronomists at the University of Maryland.

Furthermore, tests at the U. S. Pasture Research Station at State College, Pennsylvania, shows that turkeys preferred ladino clover to Kentucky blue grass and five other grasses in free choice trials.

Ladino clover tends to reseed itself and may be mowed for hay or ensilage at anytime there is sufficient herbage to do so. It does well with such grasses as orchardgrass, timothy, and smooth bromegrass.

A saving of 12 to 15 per cent in mash intake of growing turkeys and chickens rotated on ladino pasture in contrast to birds raised on bare yards or raised in confinement is easily effected with a little advance planning.

However, ladino clover may be permanently killed by trampling in spots used to excess by the birds and the use of movable range shelters, roosts, feeders, and fountains is desirable. Turkey equipment should be moved three times a week, while chicken equipment should be moved once a week, preliminary experience shows. The use of equipment designed for quick-hitch moving by a tractor minimizes the moving problem, while the regular moving reduces cleaning and handling of manure. Regular moving also provides improved sanitation resulting in lower mortality and better quality birds being raised.

Where Will Ladino Grow? Any soil that will grow grain and hay or any clover will grow good ladino clover. A soil with at least a fair amount of organic matter and moisture is necessary. A very light, sandy soil or a thin shale will not grow ladino clover. A soil test by your county agent is recommended for all soils of a doubtful nature, as special liming and fertilization may be necessary.

How Much Pasture Is Needed? The acreage needed for a given number of birds will depend upon the productiveness of the soil. A fairly fertile soil, or one which will grow good mixed hay can probably produce sufficient ladino herbage to support 125 to 150 turkeys or 250 to 300 growing pullets per acre, when rotated regularly as suggested above.

Seeding. Seeding is usually done in September or March and April in most parts of Maryland. Orchard grass is an excellent companion crop. Orchard grass, six pounds, and ladino clover, one and one-half pounds per acre, gives good results for poultry pasture. September seedings can be grazed late the following spring, while spring seedings should not be grazed until late summer. September seeding is preferable in most cases, and the land should be well prepared for the seeding to secure a really good pasture. (W. H. Rice, Poultry Dept., U. of Md.)

CLEAN EGG PRODUCTION EQUALS HIGHER PROFITS

It is good business for poultrymen to produce clean eggs, rather than spend the additional time required to clean them later or to take the price penalty the market imposes upon the dirty eggs. The cost of producing dirty eggs is usually just as high as the cost of producing clean eggs.

During the war period when details of this nature could be somewhat overlooked and profits still result, some poultrymen allowed their operations to drift into a routine that neglected some or all of the factors that contribute to the production of clean eggs.

In recent months the egg market has been shifting back into the buyer's favor, and producers who wish to remain favorably competitive must provide the essential factors required for higher profits. The production of clean eggs is one of the most important of these items. Producers should, therefore, check their plants for proper balance in connection with the following factors:

1. Eliminate Unnecessary Flat Surfaces in the Poultry House

The use of relatively broad flat boards instead of strips along the nests, feed hoppers and water fountains provide spaces where fresh droppings collect. The birds walk through this material when at the hoppers and fountains and on their way to the nests. They thus track contaminated dirt and stain into the nests that in turn dirties the eggs.

2. Provide Proper Nests and Nest Material

Some producers suffer a heavy financial loss from stained and broken eggs resulting from the lack of a sufficient quantity of fine cut straw, shavings or other good nesting material. Nests should be so constructed that they are deep enough to accommodate five to six inches of dry nesting material. This will protect the new laid eggs from excessive breakage and dirt. It is also important to provide at least one nest for each five to six hens.

3. Provide Watering Facilities That Keep the Litter Dry

Birds frequently go from the water fountain to the nest. If the area around the fountain is wet and sloppy the birds will carry a higher percentage of dirt into the nests. This dirt will contaminate the eggs already in the nest and probably the one that the hen in turn will lay.

Good management will materially reduce the number of dirty eggs. However, the most practical management methods will not completely eliminate this problem. There will usually always be a few eggs that must be cleaned. The method of cleaning that is least likely to contaminate the interior of the eggs is to scrape with a blunt knife blade and buff with sand or emery paper. Eggs may be washed if there is an assurance they are not going to be used for storage purposes. In recent years considerable work has done on the problem of washing eggs. Findings indicate that washing should be done only under well controlled conditions. The most important factor is to have the water warmer than the eggs. This creates conditions within the egg whereby the pressure is outward which prevents the drawing in of contaminated material. Eggs should not be soaked for long periods of time.

(James M. Gwin, University of Maryland)

Infectious sinusitis of turkeys is apparently caused by an virus, and may be found in turkey embryos from breeders infected with the respiratory form of the disease.

WE NEED MORE MARYLAND EGGS

Maryland is a deficit egg producing state. That is, poultrymen in Maryland do not produce anywhere near the volume of market eggs to supply the needs of consumers within the boundaries of our state. The production of market eggs has not kept up with the growth of poultry population or the growth in consuming population. The demand for good quality eggs produced on nearby farms is much greater than the supply. Only about one-third of the total gross income from poultry is derived from eggs, including hatching eggs.

In Baltimore City, less than ten percent of the receipts of eggs recorded as unloads in the wholesale market district originated within the borders of the state of Maryland. In fact, of recent date more eggs were trucked into the Baltimore wholesale market from points in the far west than were received by truck from the various producing areas in Maryland. By far the greatest receipts arrived by rail. Of the total unloads in Baltimore, approximately 15 percent arrive by truck.

Let's change this trend. Our Maryland markets and consumers are fast becoming quality and grade conscious. Eggs are now quoted, bought and sold by wholesalers and retailers, and asked for by home managers on a grade and size basis. Wholesalers are anxious to expand their markets for quality eggs. Many wholesalers and retailers from time to time ask the question "Where can I buy some good locally produced eggs?"

To meet the competition of eggs from outside sources poultrymen must produce more eggs and eggs of high quality. Maryland egg producers have the advantage of nearness to market. Some people claim this to be a disadvantage. It is if producers do not capitalize on the fact that quality and volume of business are associated closely with nearness to market. Producers who are obliged to ship eggs to market from long distances must exert care and intelligent handling of their product. This is a necessity because of the cost involved all along the line. Producers from distant points cannot afford to ship eggs of poor quality to our market. Maryland producers can meet this far western competition if quality is maintained and volume production is increased.

We need more market eggs from nearby sources. Our merchandising agencies are seeking a steadily increasing volume of quality nearby eggs, as too are our consumers. Your market is here. It is protected for you. Why not capitalize upon these facts and increase the production of more Maryland quality eggs. (Russell C. Hawes, U. of Md.)

KETCHUM Seal Leg Bands

Aluminum Leg Bands at low cost but of the best quality

A.L.COVE 41795

Permanent seal, made in sizes to fit all breeds

PRICE POSTPAID

Numbered NUMBERED & LETTERED

$1.20 per 100 — $1.70 per 100

Special prices on larger quantities

Write for Catalog of POULTRY BANDS, TATTOOS, Etc.

KETCHUM MFG. CO., INC.

Box 40, Lake Luzerne, New York

GOOD CHICKS FROM WELL BREEDERS

Maryland-U.S. Approved Pullorum Passed

Officially Bloodtested By The Tube Agglutination Method

Barred Rocks, White Rocks, New Hampshires

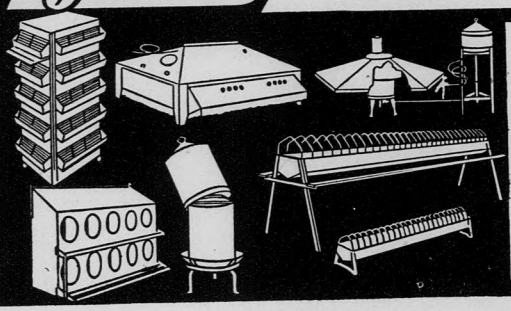
R. I. Reds, White Leghorns and Crosses

— WRITE FOR CATALOGUE AND PRICES —

MARYLAND CHICK HATCHERY, INC.

100 West South St. Phone 439 Frederick, Md.

Cyclone YEAR 'ROUND POULTRY EQUIPMENT



Build year 'round Sales and Profits with the Cyclone Line. Everything for the Poultry House. Write today for catalog and details.

The CYCLONE MFG. CO.

URBANA, IND.

WHITMOYER

"PRODUCTS OF SCIENTIFIC MERIT"

★ COD LIVER OIL
★ VITAMIN and MINERAL CONCENTRATES
★ POULTRY HEALTH PRODUCTS
★ DISINFECTANTS and INSECTICIDES

Write for free information on Poultry Diseases and Nutrition

WHITMOYER LABORATORIES, Inc.

MANUFACTURING CHEMISTS MYERSTOWN, PENNA.

DEL-MAR-VA BROILER ECONOMICS

The following facts and figures are based on the study of Smith, Poffenberger and DeVault. (Miscellaneous Publication No. 76 — U. of Md. Experiment Station — September 1948) and R. O. Bausman — U. of Del. (Bulletin 270.) The data covers the year Oct. 1, 1946 to September 30, 1947.

1. Broiler production increased in Del-Mar-Va at the rate of 8,800,000 birds per year from 1935 to 1945, with the greatest increase in 1939 and 1940. Production has averaged over 80 million birds per year since 1942.
2. In 1946, Delaware produced 21 percent, Maryland 12 percent, Virginia 8 percent, Georgia 7 percent and Arkansas and North Carolina each 5 percent of the total commercial broilers produced in the U. S.
3. 96% of the broiler growers on the Del-Mar-Va Peninsula have grown broilers for less than 15 years, and 80% for 10 years or less.
4. Distribution of Broiler Production Costs (1946) in Delmarva:

Feed	72.9%
Chicks	11.7%
Labor	7.4%
Medicines, Vaccination, etc.	2.5%
Fuel	1:6%
Building costs	1.2%
Equipment Costs	1.1%
Litter	0.7%
Miscellaneous	0.9%
	100%

5. Liberal extension of credit by feed and supply companies for feed and supplies and by hatcherymen for chicks have been an important factor in expanding their businesses, as well as in the growth of the commercial broiler industry. Of 99 growers surveyed — 36.4% were on a cash basis; 30.3% on time feeding; 28.3% on contract growing; 3.0% cash loan and 2.0 on hired labor basis, or 63.6% using credit.
6. Source of chicks for growers:

Maryland Hatcheries	54.0%	New England Hatcheries	8.7%
Delaware Hatcheries	36.9%	Virginia Hatcheries	.4%

7. Broiler Breeds used:

	1940	1946
Crossbred — BROXN.H.Q.	93.8%	89.7%
Red — (Some R.I. but principally N.H.)		10.3%
Barred Rocks	6.1%	
Others	0.1%	

8. Diseases most prevalent
   1. Coccidiosis
   2. Colds
   3. Bronchitis
   4. New Castle
   5. Larrjugotracheitis
   6. Miscellaneous

   Mortality averaged 9.6% in the 99 flock studied.
9. Insurance — 82% of growers carried fire insurance on buildings, and 67% fire insurance on broilers.
10. 86% of producers attempt to "finish" broilers for market through feeding pullets, grain, moist mash, etc. 14% made no attempts to "finish off" birds for market.
11. 54.7% of birds were marketed at 13-14 weeks of age.
    24.1% of birds were marketed at 12-13 weeks of age.

(Continued on Page 68)

BLIGHT RESISTANT

CHINESE CHESTNUTS

PLANT THEM IN THE POULTRY YARD

NUTS IN FOUR YEARS OR LESS

Easily Grown, Heavy Yielders, Grow Well in Maryland

Plant for Shade — Nuts — Profit — Beauty — Fun

YOU NEED SHADE—Chestnut tree shade earns money—Automatic fertilization—Automatic pest control — Chickens will stop the chestnut worms and give highest quality nuts

Write, SUNNY RIDGE NURSERY

445 NEW STREET SWARTHMORE, PENNA.

Everything For The Poultryman

Your nearest Cooperative Service Agency has a full line of poultry feeds and supplies for the profit-minded poultryman. See him today!

- STARTING and GROWING MASH
- LAYING MASHES
- BREEDING MASHES
- BROILER MASHES
- SPECIALITY MASHES
- FEEDERS
- FOUNTS
- BROODERS
- MEDICINALS
- CHEMICALS

SOUTHERN STATES COOPERATIVE

General Offices, Richmond 13, Virginia

SPIZZERINKTUM New Hampshires

The Strain That Made The Breed Famous

For twenty years we've been breeding plenty of overtime production capacity into every SPIZZERINKTUM chick we sell. Results: Extra profits at no extra cost for thousands of SPIZZERINGTUM customers everywhere. Write for literature and prices.

Buy Direct From the Source and Avoid Substitutes

NEW HAMPSHIRES ——— BARRED ROCKS

100% U.S.-N.H. Approved & Pullorum Clean

Chicks Shipped by Express, Parcel Post, Airfreight

CHRISTIE POULTRY FARMS, INC.

KINGSTON, NEW HAMPSHIRE

Chinese Chestnut Trees For Poultry Yard Shade

Chinese chestnuts which are blight resistant, offer poultrymen and broiler growers an excellent tree for summer shade that produces a valuable crop of nuts.

These trees grow rapidly in poultry yards, and can be headed out low, medium, or high according to cultivating practices in the yards. Roots are medium depth and light discing, up to about four inches, will not injure the roots sufficiently to damage the trees. Their spreading globe-shaped habit of growth makes excellent shade. Chickens will eat all weevil larvae reaching the ground thus helping to control them. This gives high quality nuts since the worm is the worst enemy of the chestnut.

Improved grafted varieties start bearing at 4 to 5 years of age, sometimes less, and nuts can usually be sold at very remunerative prices. Nut yields from the improved grafted varieties is heavy. Seedling trees are usually several years later in starting to bear than the grafted varieties and they are not so unifomily productive.

Trees adapted the to Middle Atlantic area can be secured from various nurseries in this area at reasonable prices.

Where birds are allowed outside range for comfort in hot weather, the shade furnished by Chinese chestnut trees can hardly be surpassed. (W. H. Rice, Poultry Dept., U. of Md.)

Maryland Research Influences Incubator Design

Research in the mechanics of incubator temperature control at the Poultry Department of the University of Maryland revealed a fundamental defect in the gas wafer type of thermostat which has been followed by widespread changeover to better design in control mechanisms. It was found by Prof. George D. Quigley that variations in weather and barometric pressure affected the commonly used gas wafer thermostats, resulting in erratic temperature control, swings up to 1½ degrees being very common. Incubators with these controls run high, for instance, when the barometric pressure is high. Most incubator manufacturers who formerly used the gas wafer type of thermostat have now swung over to the use of metallic or bi-metallic temperature control apparatus, so that variations in incubator temperatures have been reduced to the normal "make and break" of that particular machine. Some manufacturers who formerly used wafer thermostats are offering metallic thermostats to enable the operator to change over to more recent design. (Geo. D. Quigley, Poultry Dept., U. of Md.)

For Prevention and Treatment of Disease Use High Quality Products

Disease control is all-important in maintaining a sound poultry business. Even the best principles of sanitation, feeding and management should be supported by proper use of protective vaccines and proved, high-grade drugs when disease threatens or strikes.

Lederle vaccines and other *Lederle* veterinary products including the famous sulfa drugs can be used by poultrymen with full assurance that no better products are obtainable.

For Controlling Losses From—

COCCIDIOSIS, PULLORUM DISEASE in baby chicks, ACUTE FOWL CHOLERA and CORYZA—SULMET* Sulfamethazine SOLUTION *Lederle*, a highly effective and economical treatment given in the drinking water. Sick birds invariably drink when they won't eat. Prompt action against an outbreak is important for best results. This marvelous drug is the only drug now available effective against all four diseases.

NEWCASTLE DISEASE—NEWCASTLE DISEASE VACCINE *Lederle*. For lasting protection, chicks should be vaccinated at 4 or 5 weeks of age with this modified live virus (avian embryo origin).

LARYNGOTRACHEITIS—For lifetime immunity, vaccinate all birds between the ages of 8 and 16 weeks with FOWL-LARYNGOTRACHEITIS VACCINE *Lederle*.

COCCIDIOSIS—SULFAGUANIDINE—When properly mixed in the mash, this old reliable sulfa quickly checks mortality and the number of stunted and weakened birds is reduced to a minimum.

FOWL POX—For permanent immunity, vaccinate all young birds with FOWL-POX VACCINE *Lederle*. Protect broilers temporarily and laying hens with PIGEON-POX VACCINE *Lederle*.

BLACKHEAD—Losses may be reduced by the elimination of the cecal worm since the egg of this worm may be an important factor in the spread of the blackhead parasite. Cecal worm infections are controlled by administration of PHENOTHIAZINE POWDER *Lederle* or P. N.* phenothiazine and nicotine *Lederle*.

ROUNDWORMS—P. N. is also used to control roundworm infestations.

Write for free illustrated booklet "Control of Poultry Diseases".

*Reg. U. S. Pat. Off.

Lederle
ANIMAL INDUSTRY SECTION

Poultry Department

LEDERLE LABORATORIES DIVISION

AMERICAN Cyanamid COMPANY

30 ROCKEFELLER PLAZA NEW YORK 20, N. Y.

Disease Section

OBSERVATIONS ON VACCINATION FOR NEWCASTLE DISEASE

Since the invasion of the broiler industry by Newcastle Disease, it has been the hope of producers, and pathologists to find a cure for the curse.

During the year 1948, two or more live vaccines have made their appearance on the Eastern Shore.

The vaccine has been of much benefit to the broiler grower; cutting his losses considerably. Most of the time, there has been very little reaction to the use of the product, however, in using such an agent, one must expect to see some effect of that product.

When normal, disease-free birds are vaccinated, very little in the way of a reaction takes place other than a slight respiratory reaction and a small percentage of birds showing paralysis of the leg or neck muscles, "twisted necks".

A group of birds with a slight case of coccidiosis or other infection frequently runs into a rather serious reaction. Frequently, the death loss and the number of paralized birds runs quite high.

Advantages of vaccination are many, however, the loss, if any, occurs when a comparatively little money is invested in the chicks; the birds are all recovered at one time and there is no long drown-out sickness as in a natural outbreak; an outbreak can not occur at selling time when feed consumption is high.

The disadvantages are few and in most cases rather inconsequental. There are a few so-called "breaks" in which some trouble occurs.

Observations have been made upon flocks in which the disease has appeared and vaccination has been tried to stop the natural outbreak. In most of these cases, there has been very little spread of the natural infection and an uneventful recovery has occured. Some owners have been less fortunate and the infection continued to spread, however, in the few cases observed, one would believe that there was no greater death loss than from natural infection. If there was any financial loss from this procedure to the owner, it was only the cost of the vaccine and labor rather than any additional mortality. (IRWIN M. MOULTHROP, D.V.M., In Charge of Laboratory, Salisbury, Maryland.)

For Reliable

POULTRY REMEDIES

and all your

Drug Store Needs

Run Right To

Read's

226 Washington St., Havre de Grace

15 Main Street, Westminster

18 Washington St., Easton

101 Main Street, Salisbury

503 York Road, Towson

GOOD Yesterday
GOOD TODAY
GOOD Tomorrow

COBB'S PEDIGREED CHICKS

The Chicks with the High I.Q.

A breeding program that produced contest winning pens many years ago, has kept our pens up among the leaders and produced several winners in the years since, and which has our pens right up near the top this year is bound to be producing the quality you want for present day profits. Because our stock does measure up and because our trap-nest, progeny test program has been and will be continued without interruption we believe it will pay you to order chicks in one of the following breeds.

★ COBB'S BARRED ROCKS
★ "RAINBOW" REDS
★ NEW HAMPSHIRES
★ BARRED CROSS
★ SEX-LINK CROSS

COBB'S PEDIGREED CHICKS, INC.
Robert C. Cobb — Concord, Mass.

—Represented in Del-Mar-Va by—

N. E. CALHOUN.....Ocean View, Del.
E. F. TOWNSEND.....New Church, Va.
HELEN CARVER HODGES....Marion, Md.

DEL-MAR-VA BROILER ECONOMICS

13.5% of birds were marketed at 14-15 weeks of age.
Average weight of all birds sold was 3.23 lbs. per bird.

12. Broilers going to different type market:

Dressing Plants (private)	71.4%
Co-op. Dressing Plants	17.7%
Live Market	10.9%

Some dressers pay a slight premium for N.H. and light feathered birds over live buyers, while live buyers pay a slight premium for crossbred over New Hampshires and others.

DISEASE NOTES

According to field experiments by Kiser, Prier, Bottorf, and Greene (Lederle Laboratories and Townsend's, Inc.), .5 to 1.0% of sodium sulfamethazine in the feed and 0.1% in the drinking water reduced the mortality in naturally occuring fowl cholera in broilers by 45 to 75 per cent. In laboratory experiments, the reduction in mortality was 65 to 83 per cent. Intermittent treatment (1st treatment for 48 hours, followed by 24 hours 8 days later) was used in the field experiments. No toxic effects were observed.

Newcastle Disease in laying flocks usually causes:

1. A marked and rapid drop in egg production.
2. Loss in egg quality through deterioration of the thick white which is often permanent in mature birds.
3. An increase in irregular shell texture and decrease in shell thickness, some of this disappearing gradually 2 to 3 months following recovery.

VIOFORM AS AN AID TO THE CONTROL OF BLACKHEAD OF TURKEYS

The disease commonly called blackhead has exacted a heavy toll from the turkey industry of Maryland for a considerable period. In the past, the ailment virtually forced abandonment of turkey raising on some farms in the Southern part of the state. Only recently drugs effective against the disease have been discovered.

Investigational work with blackhead has been conducted at the Livestock Sanitary Laboratory at the University of Maryland for a number of years. Earlier experiments showed cage-rearing to be a practical method of control. Later, improved culture methods for propogation of the causative parasite, **Histomonas meleagridis,** were developed. This facilitated the production of parasite culture in sufficient volume to produce artificial attacks of the disease in experimental groups of turkeys. At the present time experimental blackhead is being employed to test the preventive and curative value of certain drugs.

Infectious enterohepatitis is an ailment familiar to many turkey raisers. It appears most commonly in poults between two and four months of age. Affected birds droop with neck drawn in and wings sagging. In advanced stages, the skin about the head and face often become somewhat dark colored. This symptom is responsible for the common name of the malady. At first the droppings may be slimy and somewhat bloody. Later, sulfur colored droppings invariably appear. Internally the liver is filled with rounded and speckled areas. The ceca or blind pouches of the intestine are swollen and ulcerated.

Recent experiments with the drug commonly known as Vioform (Iodochloroxyquinoline) have shown that it exerts preventive action against blackhead. Turkeys receiving 1% of vioform in mash have suffered but little from experimental blackhead that caused a high mortality rate in untreated groups. Administration of the drug was started at least 48 hours before exposure to disease in all cases. At present, there is reason to believe a somewhat more economical form of treatment may be developed. This would be highly desirable in view of the moderately high cost of vioform.

While laboratory experiments have demonstrated the preventive action of vioform against blackhead, the amount of protection offered under various and all conditions of natural attacks needs further investigation. Continued investigation with the drug in various infected flocks is expected to throw more light on this phase of the problem. (H. M. DeVolt, Poultry Pathologist, N. of Md.)

B E C K ' S

N. H. REDS — RED-ROCK CROSS
WHITE ROCKS — BARRED ROCKS
WAGON WHEEL STRAIN POULTS

U.S. Approved Pullorum Passed
BREEDING STOCK AND HATCHING EGGS
Send for Free Catalogue

BECKS HATCHERY Mt. Airy, Md.

According to a formula of Prof. E. L. Dahan of Ohio State University, for each $.05 a dozen increase in the price you sell for eggs, you can afford to pay $16.00 more per ton for feed. That's another way to illustrate the importance of doing a quality production and marketing job.

Newcastle Disease, though very costly, has not put poultrymen out of business. Through vaccination, which is apparently quite effective, controlling Newcastle may soon place this disease in the "chore list" along with fowl pox.

Fowl pox vaccine is preferable to pigeon pox vaccine in young birds since it gives life immunity and is cheaper than pigeon pox vaccine. Best time to vaccinate is 8 to 12 weeks of age. Use brush method with a stab motion into the follicles from which feather have been pulled on the drumstick. When applied by brush, a stabbing motion, not a brushing one must be used, and "green" or growing feather follicles must be used. In old or mature feather follicles, results are apt to be disappointing.

In Ohio 250 pullet chicks from a flock selected for resistance to disease was raised along with 250 pullet chicks from an ordinary source. At housing time 240 pullets from the disease resistant flock and 180 from the ordinary source were housed.

Pouring feed into feeders from the bag may save time but it wastes feed on the floor. Too big a scoop is just as bad. Feed is always too costly to spill as the chicks never eat it up and it is largely wasted.

Two or three metal drums welded end to end and cut in half the long way makes a good vat for disinfecting feeders and water troughs.

The Chicken of Tomorrow idea has not yet proven the superiority of any breed or cross, but it has focused attention on breeding possibilities, and has done much to develop favorable reaction for the industry.

In planning a water system for the farm there is great danger of underestimating needs and of using pipes too small to carry the volume of water the distance required. Running water is the poultry farm's greatest labor saver.

"We Hatch The Chick With Plenty Of Kick"

New Hampshires, Barred Cross and White Rocks

U.S. Approved and Pullorum Passed Hatchery

CUMBERLAND VALLEY HATCHERY

MAUGANSVILLE, MARYLAND

Phone Hagerstown 2952-J

INDEX OF ADVERTISERS

	Page
A. and P. Tea Company	50
Allied Mills	30
Arcady Farms Milling Company	16
Battles Farm	56
Beacon Milling Company	Third Cover
Beacon Steel Products Company	12
Beck's Hatchery	70
Bramble Poultry Farm	20
Bray, Fred W.	48
Chictone Company	30
Christie Poultry Farm	64
Clofine, Herbert K.	12
Consolidated Products Company	26
Cobb's Pedigreed Chicks	68
Cumberland Valley Hatchery	71
Cyclone Mfg. Company	62
Del-Mar-Va Distributors	Center Spread
Dietrich & Gambrill	First Cover
Dryden's Hatchery	14
DuPont deNemours, E. I. & Co.	52
Hab-Nab Farm	44
Hales and Hunter	44
Hastings Hatchery	40
Johnson, Warren D.	44
Ketchum Mfg. Company	62
Lederle Laboratories	66
Maritime Milling Company	35
Maryland Chick Hatchery	62
National Band & Tag Company	38
Nichols Poultry Farm	22
Norman Turkey Farm	42
Nuttle Lumber & Coal Company	48
Oakes Mfg. Company	18
Park and Pollard	Second Cover
Preston News and Bay Country Farmer	14
Provico Feeds	46
Quaker Oats Company	8
Ralston-Purina Company	38
Read Drug & Chemical Company	68
Russell, I. D. Laboratories	40
Salsbury's Laboratories	34
Seneca Park Poultry Farm	24
Sherwood Milling Company	4
Small & Bull Hatchery	30
Southern States Cooperative	64
Spearin Hatchery	26
Stickell, D. A. & Sons	6
Sunny Ridge Nursery	64
Telsex Company	28
U. S. Industrial Chemicals	38
Westminster Coop Auction	54
Whitmoyer Laboratories	62

TABLE OF CONTENTS

Page

OFFICERS —

Maryland State Poultry Council and Affiliated Associations 2

PERSONAL MESSAGES —

Gov. Wm. Preston Lane, Jr. 3
Dr. H. C. Byrd 5
Dr. T. B. Symons 7
Dr. Roger B. Corbett 9

I. EGG SECTION

Lighting Hens for Egg Production — Shaffner 10
Producing Hatching Eggs for Maryland's Broiler Industry — Quigley 13
Maryland Can Afford to Double Its Egg Production — Rice 15
Hen Cackles 15
Feeding for High Hatchability — Jull 17
The Moisture Problem in Laying Houses — Jull 19
Cool Poultry Houses Make Greater Poultry Profits — Quigley 21
Hen Cackles 23

II. HATCHERY SECTION

Maryland Hatcheries and Dealers with Official Ratings 24
Hatchery Notes 27
Hatching Egg Storage Temperatures — Jull 29
Pullorum Control and Breed Improvement Program — Davis 31

III. BROILER SECTION

Use More efficient Broiler Rations — Combs 32
Seasonal Broiler Chick Demand on the Del-Mar-Va Peninsula — Smith 39
New Growth and Hatchability Factor in Animal Products — Combs 41
Broiler Cheeps 70

IV. TURKEY SECTION

Securing Fertile Turkey Eggs — Shaffner 43
An Outline for Selecting Breeding Turkeys — Marsden 45
Turkey Gobbles 47

V. JUNIOR SECTION

My 4-H Poultry Achievement — Turner Wiest 49
My F. F. A. Poultry Project — Leo Mullendore 51
4-H Poultry Club Work in Maryland — 1948 — Downey 53

VI. ECONOMICS AND MARKETING

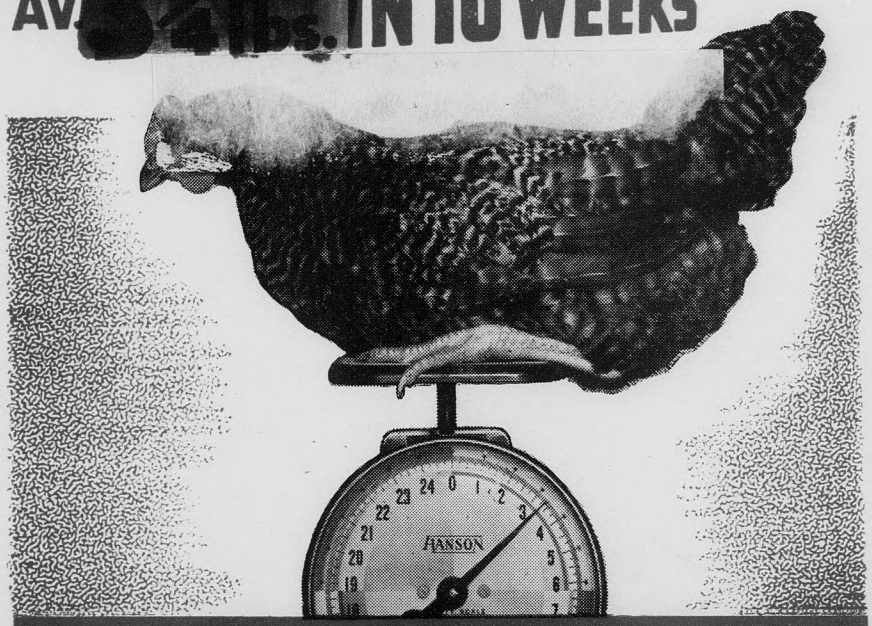
Feed Survey Committee Estimates Poultry Production for 1949 55
Economic Security of Poultry Industry — DeVault 57
Maryland Fancy Eggs — Hames 58
Ladino Clover Pastures Reduce Poultry Production Costs — Rice 59
Clean Egg Production Equals Higher Profits — Gwin 60
We Need More Maryland Eggs — Hawes 61
Del-Mar-Va Broiler Economics 63
Chinese Chestnut Trees for Poultry Yard Shade — Rice 65
Maryland Research Influences Incubator Design — Quigley 65

VII. DISEASE SECTION

Observations on Vaccination for Newcastle Disease — Moulthrop 67
Vioform as an Aid to Control of Blackhead in Turkeys — DeVolt 69
Disease Briefs 70

VIII. INDEX OF ADVERTISERS 71

AV. [illegible] lbs. IN 10 WEEKS



2.51 lbs. Lay or Bust Broiler Mash per pound of gain

When we make Lay or Bust Broiler Mash, we fortify the formula to give you extra weight at market time. Years of experience behind this formula gives you rapid growth at lower feed cost. Look at these recent test flock records showing top growth from Lay or Bust Broiler Mash:

Flock Av. Wt.	Time	Per Lb. of Gain
3.22 lbs.	10 weeks	2.62 lbs. feed
3.25 lbs.	10 weeks	2.86 lbs. feed
3.49 lbs.	10 weeks	2.78 lbs. feed
3.28 lbs.	10 weeks	2.51 lbs. feed

THE PARK & POLLARD COMPANY
Buffalo 7, N. Y. Boston 9, Mass.

LAY OR BUST

". . . made with prescription care"

✓ AGE
✓ BREED
✓ SEASON
✓ LEVEL OF EGG PRODUCTION

The BEACON FEEDING PLAN FOR High Production

✓ Consider all 4 Factors!

Here is a *scientific* FEEDING PLAN FOR HIGH EGG PRODUCTION that enables you to adapt your feeding program to the current needs of your birds. The PLAN entails feeding BEACON Egg Mash, BEACON Fleshing Pellets, and BEACON Special Scratch Grains — in just the right proportion for the needs of each pen of layers — each day — each week for *continued* HIGH PRODUCTION.

The BEACON MILLING CO., INC.
Cayuga, N. Y.